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# Newsweek®

01.15.2016



## THE BIG MELT

THE HISTORY OF THE PLANET IS HELD  
IN FROZEN SUSPENSION IN THE ANTARCTIC



# Newsweek

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**COVER CREDIT: PHOTOGRAPH BY RALPH LEE HOPKINS/LINDBLAD**

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ATTA KENARE/AFP/GETTY

# BIG SHOTS

## IRAN

### Middle East Rift

Tehran, Iran— Women gather on January 4 during a protest at Imam Hossein Square condemning Saudi Arabia for the execution of prominent Shiite Muslim cleric Nimr al-Nimr, a vocal critic of Saudi Arabia's ruling royal family who was among 47 prisoners executed on terrorism charges. Saudi Arabia and its Sunni Gulf allies cut diplomatic ties with Tehran after protesters stormed the Saudi Embassy in Tehran and set it on fire. The Saudis responded by giving Iran's ambassador 48 hours to leave the country.



ATTA KENARE

IRAQ

## Ramadi Reclaimed

Ramadi, Iraq—Members of Iraq's elite counterterrorism service wave their flag during patrol on December 27 in the capital of Anbar province. Iraqi security forces drove Islamic State militant group (ISIS) militants from the city in a December offensive. Iraqi Prime Minister Haider al-Abadi flew to Ramadi to plant the national flag and declared a national holiday to celebrate the recapturing of the city, which had been under ISIS control since May. The Iraqi government, with the backing of U.S. airstrikes, is hoping to use the momentum of its victory to recapture another strategically important city, Mosul, which ISIS seized in 2014.





USA

## Long-Running Show

Elkins Park, Pennsylvania—Bill Cosby leaves a courthouse after being arraigned on aggravated indecent-assault charges on December 30. Cosby, 78, has long denied allegations of sexual abuse that have been made by more than 40 women. If found guilty, he faces up to 10 years in prison. He was released on \$1 million bail. According to prosecutors, Andrea Constand, who described Cosby as a mentor, alleges he drugged and sexually assaulted her while in his Philadelphia-area home in 2004.



BRYAN ANSELM



BRYAN ANSELM/THE NEW YORK TIMES/REX USA









USA

## Downriver Downpour

Pacific, Missouri—After days of downpours in the Mississippi and Ohio rivers region, numerous homes were overtaken by floodwaters on December 29. Missouri Governor Jay Nixon had declared a state of emergency two days earlier, evacuating thousands. As of January 4, 31 people had died across Illinois, Missouri, Oklahoma and Arkansas, and flooding was expected to spread farther south. Officials in Tennessee and Louisiana strengthened levees and placed sandbags in anticipation of overflow from the Mississippi River. In Memphis, Tennessee, Exxon Mobil decided to shut its 340,571-barrels-per-day refined products terminal, just south of the city's downtown.



HUY MACH



# P A G E O N E

BURUNDI

—RUSSIA—

GERMANY

CONFLICT

HEALTH

POLITICS

## RESTLESS IN RUSSIA

As the country's economy goes from bad to worse, the Kremlin prepares for a season of possible unrest

**PREDICTING** a coming Russian revolution has been a favorite hobby of Russia watchers for years now. But since President Vladimir Putin's annexation of Crimea in March 2014, the doomsaying has intensified, as plunging oil prices and Western economic sanctions wreak havoc on the Russian economy. Yet even though the ruble has lost over half its value, inflation has risen from 5 percent to 16 percent and Russians' purchasing power has dropped to 1990s levels, Putin's approval ratings have so far remained close to a near-miraculous 80 percent thanks to a heady mix of military adventures and a barrage of patriotic propaganda.

There are signs, though, that the Kremlin is bracing for a possible end to this period of national togetherness and is preparing for a possible wave of unrest. "If 2014 was the year that Russia went rogue, 2015 was the year that the costs of that course became manifest," wrote Brian Whitmore recently on U.S.-funded Radio Liberty's influential *The Power Vertical* blog. "And next year should be when we learn whether Vladimir

Putin's regime will be able to bear those costs."

In December, the Russian Duma rushed through a bill that allows state security officers to shoot at women (except, bizarrely, if they "appear pregnant"), children and disabled people "in cases of a terror act or armed attack." The law also hands the officers the right to enter private property to "maintain public security in emergency situations and during mass civil unrest." The OMON riot police, deployed in the tens of thousands during mass protests against Putin's return to the presidency in 2011, has seen its budget ring-fenced, while the rest of the police downsizes by 10 percent. At the same time, Russia's Interior Ministry has quintupled its order of a brand-new version of the RGS-50M grenade launcher, which was designed during the dying days of the Soviet regime in 1989 to fire tear gas and rubber bullets. "They are cheap to produce and effective to use," an enthusiastic spokesman for the Degtyarev factory told the Russian news agency TASS, which ran the story prominently.

BY  
**OWEN MATTHEWS**  
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YURI KOCHETKOV/EPA

**BIG BROTHER:** State control of TV news has been crucial to creating the wave of patriotic fervor that has kept Putin popular despite rising prices and falling living standards.



On December 15, a new barbed-wire fence was installed around Ostankino, Moscow's central TV studio, making it harder for crowds to break in, as they did during anti-Kremlin protests in October 1993. Authorities also swapped the studio's regular security guards for elite troops from the KGB's successor agency, the Federal Security Service. Television has been crucial to creating the wave of patriotic fervor that has kept Putin popular even as prices rise and living standards fall—what Russians call the battle between the television and the refrigerator. Right now, the refrigerator seems to be winning: According to a recent poll by the independent Levada Center in Moscow, Russians' trust in the TV news has slipped from 79 percent in 2009 to just 41 percent today.

"Of course, [the Kremlin] understands that this is going to be a hard year, politically and economically," says Anton Krasovsky, a blogger and former anchor at NTV television in Russia who was fired last year after announcing he was HIV-positive. "There is no more money for social spending, no money for increasing salaries to teachers, doctors, firemen.... But the priority is to prepare the way for Putin to remain president after [elections] in 2018."

So far, the Kremlin has kept discontent at bay with the age-old expedient of providing a steady diet of enemies to blame for Russia's problems—the Americans, the Ukrainians and now the Turks.

Three-quarters of Russians still blame the West for their economic woes, according to a recent study by the Institute of Sociology, part of Russia's Academy of Sciences—but the authors warned that within a year to 18 months this collective delusion will probably wear off, and people could begin to blame their rulers instead. Sixty percent of respondents reported that their standard of living had declined over the last year, and just 38 percent said they were willing to "make further sacrifices to defeat Russia's enemies."

Over the past few weeks, there have been increasing indicators of discontent. Truckers went on strike in December to protest new tolls administered by Putin cronies, bringing Moscow traffic to a halt. Doctors and teachers also went on strike over pay and conditions in Central Russia. Shocking allegations about a business empire of the son of Yury Chaika, Russia's prosecutor general and a close Putin ally, were circulated broadly on the Internet. And prominent businessman Dmitry Potapenko during the Moscow Economic

**+ MONEY TALKS:**  
The Russian ruble has lost more than half its value since the annexation of Crimea in 2014, which drew sanctions from Europe and the United States.

Forum, an annual gathering of Russia's top business leaders, publicly accused Kremlin-protected state bureaucrats of strangling businesses through massive corruption.

"You can expect a visit from men in uniform the moment your business takes off," said Potapenko, who runs a chain of supermarkets and a carpet factory. "Now there's less money, and the budget has to be plugged with something. [State officials] already muscled in on property a long time ago. Now all that's left are the businesses in the service industry." Nearly 2 million viewers watched his speech online.

That kind of public dissent appears to have rattled the Kremlin—and the Kremlin appears to be responding. In December, the Federal Guard Service—Putin's personal praetorian guard—was repurposed and deployed to all of Russia's provinces to act as an early-warning system for social unrest. Irina Makiyeva, a former state bank executive, has been drafted to head a working group to identify potential trouble spots for industrial unrest around Russia. The service will be conducting polling to assess citizens' levels of discontent, Makiyeva told the Russian cabinet in a televised session: "We're ready for things to get worse in some sectors. We conduct constant monitoring, especially in the problem cities." Makiyeva's team has developed a green, yellow and red classification system to identify potential unrest. It has also worked out a velvet-gloved-iron fist package of emergency economic aid and heavy police action to identify and arrest agitators should any protests arise.

"Every action of [Kremlin chief of staff] Vyacheslav Volodin is based absolutely on this so-called closed polling," says Mikhail Zygar, former editor-in-chief of the opposition Dozd TV and author of the best-selling *All the Kremlin's Men*, a study of the Putin regime. "These polls confirm that everything they're doing is right, that Putin is popular and the people love him. And the polls are absolutely consistent. [The Kremlin is] sure that there will be no uprisings."

If that's true, why is the Kremlin taking so many pre-emptive security measures? Mark Galeotti, a Russia expert at New York University, argued in a recent article on Russia, the independent online magazine, that the Kremlin's real purpose is to create a "theatre of tyranny. A style of governance which actively encourages the appearance of being tougher and nastier than it really is, and at the same time enthusiastically

telegraphs that it could be tougher and nastier still." Just as Russia's foreign policy in Syria, for instance, is all about projecting ruthlessness and great-power status by using a tiny military force, so its domestic policy is all about cowering protest before it happens. "Both depend on making Russia appear not only stronger than it is, but more ruthless, unpredictable and downright crazy, so it seems easier to accommodate than challenge it," wrote Galeotti. "And it works really well."

Theater or not, some very real victims have been scapegoated to discourage future protest. A handful of activists arrested at mass protests in 2011 and at isolated demonstrations since have been sentenced to prison terms ranging from two to four years. And just in case exiled oligarch Mikhail Khodorkovsky had planned on making trouble in Russia, prosecutors last

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## "IF 2014 WAS THE YEAR THAT RUSSIA WENT ROGUE, 2015 WAS THE YEAR THAT THE COSTS OF THAT COURSE BECAME MANIFEST."

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month charged him with murder, effectively ensuring that he won't return to his homeland.

But for the Kremlin to truly stifle any chance of unrest once and for all, Russia would have to become prosperous again. In an era of low oil prices, that would mean becoming competitive—which would require the state to create a functioning and fair judicial system and suppress the predatory instincts of the bureaucratic and securocratic class. But that would mean dismantling the very basis of the kleptocratic system that Putin has built. So the Russian president is left with two basic tools: repression and patriotic fervor. They have served him well so far. The question is whether the Russian people will continue to believe the television after the refrigerators stand empty. ■

## BURUNDI IS BURNING

# A country with a bloody history of ethnic conflict risks descending into chaos again

AT THE NYARUGUSU refugee camp on Tanzania's western border, Faith Umukunzi sits on a stone with her baby safe and comfortable in her arms and talks on her cellphone with her husband. She hasn't seen him for five months. "My husband says his life is in danger," says the mother of five after ending the call. "They want to kill him for supporting the opposition party. He has been hiding since the coup, and he can't travel to this camp. I know they will kill him."

Umukunzi and her children are among around 110,000 Burundian refugees who have fled to neighboring Tanzania since April, when Burundi descended into violence after President Pierre Nkurunziza announced he was running for a third term. After a failed coup in May, Nkurunziza was re-elected in July, but tensions have remained high.

Umukunzi, who lived in Rumonge province in southwest Burundi on the shores of the massive Lake Tanganyika, says she fled her home after pro-government militias asked her to surrender her two sons to help them fight rebels opposed to Nkurunziza. Her husband remained behind to join the struggle against the president. "It was a risky journey," she says. "I had to travel for four days to save my children from being murdered by members of the ruling party. My family was the next target after our close neighbors were shot by men in police uniform. I saw very many people being killed."

The violence stems from a controversy over whether Nkurunziza was eligible to stand for a third five-year term. The constitution states that the president of Burundi cannot run for office more than twice. But Nkurunziza claims the parliament, rather than voters, elected him to his first term in 2005—he was the first president under the new constitution—so, he argued, he had campaigned to the electorate only once before.

His decision sparked fury. Many Burundians were deeply unhappy about the president's track record. His power grab was an excuse to vent their frustrations, says Devon Curtis, a political scientist at Cambridge University in Britain who studies Africa's Great Lakes region. While Burundi's gross domestic product is slated to grow by 5 percent next year, the average citizen can expect to see a decline in wages due to inflation, according to African Economic Outlook.

"His opponents really rallied around this question of the third term, [but] the issues run much deeper," says Curtis. "It was about corruption of the government. It was about dissatisfaction with standards of living and the fact that the economy wasn't growing quickly enough and that the benefits were going to a relatively small number of people."

In May, General Godefroid Niyombare launched a failed coup against Nkurunziza, after which the president intensified his persecution of opponents, and they stepped up their resistance

BY  
**TONNY ONYULO**  
[@TonnyOnyulo](https://twitter.com/TonnyOnyulo)



in turn. Nkurunziza won the election in July and then led a crackdown on opponents that resulted in numerous deaths.

In December, 79 opposition fighters and eight government soldiers died during coordinated rebel attacks on three Burundian military bases, an army spokesman said. The week before, scores of people died in clashes at military installations. Police spokesman Pierre Nkurikiyе condemned what he called “several armed criminal attacks.”

International alarm has been mounting over rhetoric from Nkurunziza’s supporters that has grown increasingly poisonous—drawing comparisons to the hate speech that whipped up the genocidal violence in Rwanda in the 1990s. That’s worrying because Burundi has also experienced genocide. A civil war between 1993 and 2005 pitted rebels from the Hutu majority against an army dominated by minority Tutsis. At least 300,000 people died in the conflict, which started a year before the genocide of mainly Tutsi people in neighboring Rwanda.

Fears of new mass killings are motivating people to flee Burundi, but so far the violence hasn’t risen to a level that would obligate the international community to intervene, says Curtis. “At

the moment, it isn’t fair to describe events as genocide,” she says. “It’s political violence, and it’s violence concentrated in particular neighborhoods. I think it would be a mistake to call this genocide, in that people are not being targeted for their ethnic affiliation at the moment.”

After the December attacks on military bases, U.N. high commissioner for human rights (UNHCR) spokeswoman Cecile Pouilly said government security forces conducted intensive house searches in response, arresting hundreds of young men and allegedly summarily executing some of them. According to *The New York Times*, government forces retaliated by conducting attacks that mostly targeted Tutsis, raising fears that the violence was becoming increasingly sectarian.

The U.N. estimates 340 people have been killed since April, including about 100 in

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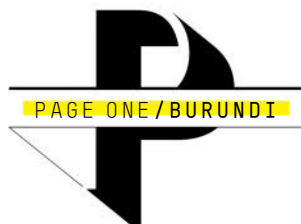
“AT THE MOMENT, IT ISN’T FAIR TO DESCRIBE EVENTS AS GENOCIDE.”

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**NEW NORMAL:** Bodies like these, photographed December 9 in the Cibitoke district of the capital, Bujumbura, have become a far too common sight in Burundi.

+





mid-December. Thousands more have been imprisoned, and more than 200,000 have fled the country. In late December, the African Union announced it would send 5,000 peace-keeping troops into Burundi. The AU is now waiting for the U.N. Security Council to approve the force. Nkurunziza opposes the move, but the AU has said it will dispatch troops with or without his approval.

A week after the AU made its announcement, Nkurunziza and a coalition of opposition groups launched talks in neighboring Uganda to end hostilities. While Nkurunziza has said the talks are going well, there's little sign that they will succeed anytime soon.

When I visited Bujumbura in mid-December, the atmosphere was tense but mostly quiet. Soldiers were patrolling the streets of the capital, and barricades were blocking intersections and government offices. But the central business district was lively, and people were shopping for their weekly groceries and other goods.

In Musanga, a neighborhood considered a stronghold of the opposition, people gathered in small crowds at dawn amid the sounds of chirping birds. They said many residents were afraid to come out. "We have been the target since the failed coup against the president," said Antoine Ndayikeza, an activist who had been leading protests. "We have lost more than 100 people in this neighborhood alone through live bullets. The government soldiers have made life very difficult for us. We can't go to work or gather in groups. Goods are getting scarce, as people hoard stock."

Ndayikeza said he was determined to continue, however. "We won't be intimidated," he said. "We will continue to pressurize the president to give up the power to the people and respect the constitution. The president has no support of the people, that's why he is using the military to cling on to power."

In November, the United States imposed sanctions on four current and former officials in Burundi in connection with the violence, including asset freezes and visa restrictions. The White House cited reports of targeted killings, arbitrary arrests, torture and political repression by security forces.

The unrest in the small, landlocked nation has led to an influx of refugees into camps in Tanzania. That in turn has led to a rise in cases of cholera, diarrhea, tuberculosis and HIV, according to the World Health Organization (WHO). Around 5,000 refugees are staying in one cramped soccer stadium, where unsanitary conditions have created a prime breeding ground for diseases.

Caleb Nzeyimana and his sister Selina Niyotenze escaped from Bururi province in southwest Burundi to the Nyarugusu refugee camp in Tanzania after fighters from a pro-Nkurunziza youth militia called the Imbonerakure tried to force them to join their ranks. "Members of Imbonerakure are very dangerous," says Nzeyimana, asking for a cup of water to quench his thirst after alighting from a bus. "They are very well-armed, and they kill any person opposing the president. We decided to run and save our lives."

But Nzeyimana and other refugees are worried about their safety here too. "We can either decide to stay here and face cholera or go back to Burundi and face Imbonerakure," says

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**"THEY ARE VERY WELL-ARMED, AND THEY KILL ANY PERSON OPPOSING THE PRESIDENT."**

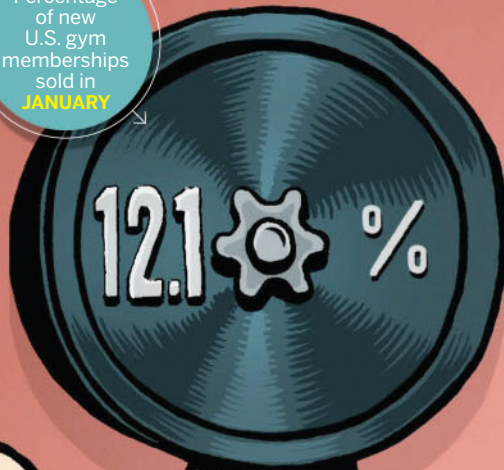
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Nzeyimana. (According to the WHO, during the crises already more than 31 people have died from cholera in Tanzania, and more than 3,000 acute diarrhea cases have been reported.)

Fatima Mohammed, a representative from the UNCR's office, says more than 35,000 refugees may need to leave the Nyarugusu shelters if and when floods come during the rainy season. Tanzania is reopening more refugee camps along its border, and tens of thousands of Burundians are being moved from the overcrowded Nyarugusu camp to former settlements that were used during the previous Burundi crisis.

Alex Nibigira has been a refugee in Nyarugusu twice. He fled here in the 2000s, then returned to Burundi in early 2006 after peace was restored. Now he's here again. "I don't want to die in Burundi. That's why I came here," says Nibigira. "Twenty years ago, I lost three people in my family during the unrest. This time, I had to save my life." **N**

Percentage of new U.S. gym memberships sold in **JANUARY**



Percentage of new U.S. gym memberships sold in **JULY**



TWO  
NUMBERS

## Where Angels Fear to Treadmill

YOUR GYM MIGHT BE PACKED IN JANUARY, BUT THE CROWDS WILL SOON THIN OUT

For years, health clubs have profited off our best intentions to lose weight and get fit in the new year. Come January, throngs of fitness-phobes try to make good on their resolutions by plunking down checks for health club memberships. Most gyms offer some sort of “new year, new you” deal to encourage even the most sedentary to step on a treadmill.

There are 54 million people in the U.S.—approximately 17 percent of the population—who are members of some type of gym or fitness

center. A disproportionate number of them join shortly after the guilt of a gluttonous December sets in. According to a survey conducted by the International Health, Racquet & Sportsclub Association (IHRSA), 12 percent of all gym memberships are sold in the month of January.

Fitness club managers, staff and trainers enjoy the surge in profits and the challenge of handling new clients, but for existing members who stick to their healthy habit year-round, an excess of untuned bodies at the

gym is a pain in the glutes.

“When clubs are more crowded, people get testier,” says Meredith Poppler, a spokeswoman for IHRSA. “Some members get territorial; they want their particular locker or particular spot on the exercise floor. You see the same thing in church when people show up on Christmas and aren’t there the rest of the year.”

Thankfully for committed gym rats, the newcomers tend to fall off as early as mid-February, says Poppler. Gym drop-out is common; in 2014,

clubs held on to only 7 out of every 10 members. But a huge number of people who fail to stick with their resolution continue to pay fees, on average about \$69 per month.

“Attendance picks up in the spring,” says Poppler. “People think, Oh God, I should start getting ready to wear a bathing suit.” By the height of summer, new business is in the doldrums, with just 6.9 percent of new memberships purchased in July, according to IHRSA.

BY  
JESSICA FIRGER  
@jessfirger

SOURCE: INTERNATIONAL HEALTH, RACQUET & SPORTSCLUB ASSOCIATION

## GIVE WAR A CHANCE

As Germany's global influence grows, politicians are more willing to deploy the military overseas in spite of lingering wariness among some voters

**THE DELIBERATIONS** by the German parliament in December over sending troops to a foreign war were notable for perhaps one aspect above all: the ease with which Chancellor Angela Merkel's government gained approval to deploy 1,200 German troops to help fight against the militant group that calls itself the Islamic State (ISIS). The government overwhelmingly won a vote in the lower house of parliament, or Bundestag, which must approve all military operations. The mission will constitute Germany's largest current overseas deployment. Germany will provide logistical support and conduct reconnaissance as part of the U.S.-led coalition against ISIS, but German troops will not engage in combat.

Even opponents of the initiative seemed resigned to a move that just a few years ago would have been unacceptable to a majority of Germans. Stefan Liebich, responsible for the foreign policy of the Left Party, admitted on the eve of the vote that a protest his pacifist party had helped organize for that night had little chance of affecting the outcome. "I fear that Germany is becoming less and less willing to say no" to military engagements abroad, Liebich told *Newsweek*.

For decades, most Germans have been deeply skeptical about building up and using the country's military. Germany started and lost two world wars in the 20th century, and many Ger-



BY  
**RENUKA RAYASAM**  
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mans feel the military should never again be involved in ventures beyond Germany's borders. Debates in the Bundestag about sending troops abroad have often been long and rancorous. During the first Gulf War, German leaders decided against joining international allies in the fight against Iraqi leader Saddam Hussein.

But as Germany has grown into Europe's largest and strongest economy, its leaders are increasingly open to calls from allies to send troops to join military engagements abroad. The vote on Syria suggests public hostility to such missions is waning. The Left Party protest near Berlin's iconic Brandenburg Gate drew about 2,000 people but, as Liebich predicted, did little to sway members of the Bundestag, nearly 75 percent of whom voted on December 4 to support a campaign against ISIS in Syria.

After World War II, the victors took steps to ensure Germany's military would never again threaten Europe and the world. A re-education process taught Germans to be suspicious of their military, or Bundeswehr. The constitution limits military activities to defense. "We, the Germans, have been rightly educated as being a pacifist society," says Karl-Heinz Kamp, academic director of the Federal Academy for Security Policy in Berlin.

In 1992, Germany sent a small group of military medics to Cambodia, marking the first time it had sent troops overseas in the modern era, but for the most part the country practiced "checkbook diplomacy," contributing financially to allies' war efforts. But in 1995, after Bosnian Serb forces killed more than 8,000 Bosnian Muslim men and boys near the town of Srebrenica, Germans struggled with the decision on getting involved in a European war for the first time since the end of WWII. The debate in Germany was cast as a choice between "not another war" and "not another Auschwitz." Germany contributed to the NATO mission with troops that provided logistical and medical help, billing the mission as a humanitarian operation.

Just a few years later, in 1999, Germany had to decide whether to join NATO partners in the Yugoslav province of Kosovo, this time without explicit authorization from the U.N. Security Council. Germany again justified the mission on humanitarian grounds, but critics felt the decision to send ground troops and aircraft to keep the peace in southern Kosovo was overstepping the Bundeswehr's strict mandate. This was a region where the Nazi Wehrmacht had been active. "It broke a major taboo," says Liebich.

It has since become harder for Germany to say no to calls from NATO allies to join foreign missions. It still has to convince the public on a case-by-case basis—but that's becoming easier.

In 2001, politicians initially justified sending 1,200 troops as part of the NATO force in Afghanistan as a deployment intended to stabilize the country rather than to engage in battle. While the mission drew protests, Germans believed its troops would be building schools and training locals, says Klaus Naumann, a historian at the Hamburg Institute for Social Research. But when German troops began to come home in body bags

## THE DEBATE IN GERMANY WAS CAST AS A CHOICE BETWEEN "NOT ANOTHER WAR" AND "NOT ANOTHER AUSCHWITZ."

(56 Germans have died in Afghanistan), Germans could no longer deny they were in a war.

Since 1992, Germany has been involved in more than 60 foreign operations, contributing equipment and troops to U.N. and NATO missions throughout Africa, Europe and Asia. About 40 percent of Germans polled in October by the nonprofit Körber Foundation say the country should take more responsibility for international conflicts, up from 34 percent this past January.

Roderich Kiesewetter, a member of parliament for the Christian Democratic Union and a former general staff officer, believes Germany should be more involved overseas, especially after the ISIS attacks in Paris in November, but he acknowledges that will require increased military investment. Fifty-one percent of Germans surveyed in recent months support more military spending, up from 32 percent in 2014, according to the Bundeswehr Institute of Social Sciences.

The legacy of the Nazis' ultranationalism and their ensuing war crimes has long made many Germans hesitant about being publicly proud of their country. Sending German troops overseas, for most Germans, has to be about helping other people, not conquering them. "Patriotism will never inspire the German people," Rainer Arnold, a defense expert for the Social Democrat Party, told *Newsweek* minutes after he voted for the anti-ISIS operation. "I believe that is a rather good thing." **N**

**TO FIGHT ISIS:** Members of the Bundeswehr, the German armed forces, board a Luftwaffe A400M transport plane bound for the Incirlik Air Base in Turkey to join the U.S.-led coalition against ISIS.

SEAN GALLUP/GETTY





## DON'T KILL THESE LAWYERS

# More than two decades of dogged legal work finally paid off for U.S. victims of state-sponsored terrorism

IN 2003, an American private investigator slipped into Beirut to take a videotaped deposition from a Shiite militant for a sensitive civil case in U.S. federal court. The militant, identified only by his first name, Mohammed, acknowledged under oath that he had helped prepare the 10-ton truck bomb that blew up the U.S. Marine barracks in Beirut in 1983, killing 241 American peacekeepers. Mohammed also disclosed that several Iranian officials in Damascus, Syria, were in daily contact with the group building the truck bomb.

When the investigator returned to Washington, he testified in court behind a screen, speaking into a device that disguised his voice to protect trusted associates in Lebanon who had helped arrange the deposition. “We had some serious concern about people in Lebanon somehow being connected with [the deposition], and they would be gone”—killed—if rivals discovered their involvement, recalls the investigator, who spoke to *Newsweek* on strict condition of anonymity.

The PI’s secret trip to Beirut shows the lengths to which a small band of pragmatic and resourceful lawyers have gone to win judgments against Iran and other rogue states on behalf of American victims of state-sponsored terrorism. Under a controversial 1996 law that allows civil suits in U.S. courts against states that sponsor terrorism against Americans, these attorneys have already won some \$12 billion in compensatory judgments, mostly against Iran. Their

clients, numbering around 2,500, include the survivors and families of those killed in some of the worst overseas attacks in the past four decades. In addition to the Beirut Marine barracks bombing, the assaults include the 1983 bombing of the U.S. Embassy in Beirut, the 1996 bombing of Khobar Towers in Saudi Arabia and the 1998 bombing of the U.S. embassies in Nairobi, Kenya, and Dar es Salaam, Tanzania. The lawyers also have been looking out for the victims of the Tehran, Iran, hostage crisis that began in 1979.

So far, however, the judgments have been victories only on paper. To date, only a handful of victims have received any money, largely because it is difficult to seize the assets Iran and other terrorist-sponsoring states have stashed around the world, and Iran will never recognize the judgments. Those difficulties have been compounded by the Justice Department’s reluctance to agree to the victims’ demands to be paid compensation from the billions of dollars in penalties paid by businesses and banks for violating sanctions against Iran.

But all that is about to change. Provisions tucked into a huge spending bill President Barack Obama signed in December promise to provide at least some compensation to all of the victims who’ve won judgments, some of whom have been waiting for restitution for more than 30 years.

The provisions are the result of over three



BY  
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**BEIRUT 1983:** Rescue workers search the rubble of the U.S. Marine barracks in Beirut after it was destroyed by a truck bomb that killed 241 American peacekeepers in October 1983.

years of negotiations between the victims' lawyers and key members of Congress. They establish for the first time a victims' fund of \$1 billion, which will be drawn from penalties paid by the Paris-based bank BNP Paribas for violating sanctions against Iran, Sudan and Cuba. There's a possibility that another \$1.9 billion in seized Iranian assets could become available to some victims from a case the Supreme Court will hear in January. The Congressional Budget Office projects an additional \$1.5 billion will go into the fund over the next decade from criminal and civil fines from pending cases regarding Iran sanctions violations.

"This fund isn't going to be able to pay out everybody's full judgment, but the money that they get at first will be like a down payment,"

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**"IF YOU WANT TO TELL BAD GUYS THAT THEY OUGHT NOT TO BE DOING THIS, YOU'VE GOT TO TAKE THEIR MONEY AWAY FROM THEM."**

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says Caragh Glenn Fay, daughter and colleague of Thomas Fortune Fay, a top Washington litigator working on behalf of the victims. For example, the Tehran hostages can expect an initial payout of at least \$250,000, says Steve Perles, another lawyer for victims.

"I was so grateful that Congress remembered the sacrifice," says Alex Haas, who was 8 when his father, CIA Station Chief Kenneth Haas, was killed in the 1983 Beirut embassy bombing.

“Terrorism has impacted my whole life,” he says, his voice cracking with emotion. “A lot of us felt forgotten—forgotten by the government, forgotten by society. So the law feels like a recognition that there were people like my dad who gave their lives for the country.”

### HOLOCAUST COMPENSATION

The story of how those U.S. victims of state-sponsored terrorism can finally expect some compensation begins with a Jewish Holocaust survivor. Hugo Princz was the son of a naturalized American businessman living in what is today Slovakia, making him a U.S. citizen at birth. In 1942, townspeople turned over the Princz family to the Nazis, who ignored their U.S. passports and sent them to concentration camps in Poland. Princz’s parents and sisters died in Treblinka, while Hugo, then a teenager, worked as a slave laborer for three years, first at Auschwitz, then at a factory in Dachau, outside Munich. U.S. forces freed Princz in May 1945 and treated him at an American military hospital.

Princz settled in the U.S. and applied for the monthly reparations payments Germany began giving to German Holocaust survivors and refugees in the 1950s. But because he was neither a German citizen nor a refugee, German officials turned down his repeated appeals. In 1992, he hired Perles to sue Germany in U.S. federal court, arguing that Congress never intended that a law prohibiting Americans from suing foreign governments—the Foreign Sovereign Immunity Act—should apply to the Nazis. Princz won in the lower court, but the decision was overturned on appeal, and the Supreme Court upheld the appellate court ruling in 1994. By then, however, Princz’s case had drawn national attention, and in 1995 President Bill Clinton pressured German Chancellor Helmut Kohl into paying Princz and more than 40 other American victims of the Nazis some \$25 million in reparations.

The case stirred strong feelings in Congress, where many lawmakers felt a lingering resentment toward the State and Justice departments for their defense of Germany’s sovereign immunity. But what tipped the legal scales in favor of terrorism victims was the case of Aliza Flatow, a 19-year-old American exchange student killed in a 1995 Gaza bus bombing by an Iranian-backed militant group. Together with the murdered girl’s father, Perles lobbied lawmakers for a law that would allow U.S. victims of state-sponsored terrorism to sue in U.S. courts.

In 1996, Congress passed a measure that did exactly that. “At some point, a foreign sovereign’s conduct becomes so noxious toward a U.S.

citizen that the foreign sovereign no longer can expect to receive sovereign immunity,” Perles says, explaining the legal philosophy underpinning the law. “And if you want to tell bad guys that they ought not to be doing this, you’ve got to take their money away from them.”

Over the next few years, Perles filed civil suits against Tehran on behalf of Flatow’s father, the relatives of two Americans killed in Jerusalem by Iran-supported bombings and the family of a former Beirut hostage held by Shiite extremists during the 1980s. At the time, both State Department officials and legal experts dismissed Perles’s chances. But in a series of judgments



+ **NAIROBI 1998:** At least 224 people, including 12 Americans, were killed in two Al-Qaeda bombings at U.S. embassies in Nairobi, above, and Dar es Salaam in August 1998.



between 1996 and 2002, he not only won a \$77 million award for his clients but also found the funds to pay for it in an account containing \$400 million that prerevolutionary Iran maintained at the Pentagon to pay for U.S. weapons, which was seized when the U.S. hostages were taken in 1979.

Perles's courtroom success prompted other victims to come forward. In 2002, he teamed up with Thomas Fortune Fay to represent the survivors and families of those killed in the Beirut Marine barracks bombing in several suits against Iran (including the one in which the PI testified after his clandestine trip to Beirut). In a series of judgments between 2007 and 2012, the court awarded the victims a total of \$4.2 billion. Acting on a tip from the Bush administration, which wanted to cripple Iran's nuclear program, Perles located \$1.9 billion in laundered Iranian funds in a New York Citibank account and seized it to pay the victims. Those funds are now at the center of an Iranian challenge before the Supreme Court.

Meanwhile, Stuart Newberger, a prominent international lawyer, won a \$335 million judgment in 2003 for the victims of the Beirut embassy bombing. That same year, Perles, Fay and Newberger, each representing different groups of victims of the 1998 East Africa embassy bombings, filed suit against Iran and Sudan for their complicity in the Al-Qaeda bombings that killed more than 220 people. By 2014, they had won judgments totaling \$8 billion.

#### SHOW THEM THE MONEY

Again and again, despite judgments in their favor, the victims have been frustrated by the difficulty in finding the funds to pay for them. Newberger traveled to Italy in 2008, where he had traced some \$500 million in Iranian funds to an Italian bank. But an appellate court in Rome rejected his request to seize the funds. Even more discouraging was an opinion in an unrelated case by the International Court of Justice in the Hague, which said the judgments in U.S. courts against foreign countries violated the principle of sovereign immunity and therefore were illegal under international law. According to Perles, Newberger concluded that the victims stood a better chance of being paid their compensation awards if he could convince Congress to pass legislation creating a victims' fund, rather than spending his time going after Iranian money in foreign banks.

Newberger found a receptive audience on Capitol Hill, where some lawmakers have been pushing for terrorist victims compensation for years. More to the point, he also found that key members of the House and Senate judiciary

committees were open to crafting a legislative remedy. For good measure, Newberger brought along Alex Haas, the son of the slain Beirut CIA station chief, to meet with lawmakers and add a victim's voice to the lawyers' efforts.

Still, in a climate of tight budgetary restraint, it took Newberger, aided by Perles and Gary Klein, another Washington attorney, more than three years to design the victims' fund, write the legislation and get Congress to act on it. Obama signed the measure on December 18.

Under the measure, Tehran hostages, the survivors or the estates, theoretically stand to receive \$4.4 million each, based on a formula

## THE SURVIVING TEHRAN HOSTAGES AND THEIR ESTATES THEORETICALLY STAND TO RECEIVE \$4.4 MILLION EACH.

that awards each \$10,000 per day for the 444 days spent in captivity. But with far more claims than the fund can satisfy in its first year, the law stipulates that the first \$1 billion will be divided equally among all the victims. The first payments must be made by December 2016. Only after all the victims have received at least 30 percent of their judgments are they eligible for further prorated payments as more funds become available.

"The way this was set up, all boats rise with the tide," says a congressional aide. "Nobody gets favored, and nobody gets left behind."

That goes for the lawyers too. The law caps attorneys' fees at 25 percent of any reward—far less than their usual contingency fee of 33 to 40 percent. But that still means attorneys like Perles, Fay, Newberger and their teams will be divvying up a cool \$250 million. By any measure, that's doing well by doing good. **N**



ANTONY NJUGUNA/REUTERS



# THE BIG MELT

After eons of change measured in geologic time, **Antarctica** is now rapidly transforming—  
and sitting on a treacherous ledge

By **Nina Burleigh** @ninaburleigh





**In all mythic, transformational trips—acid, ayahuasca, Mars or across the river Styx—the voyagers must, at some point, face down their deepest fears. For expeditions into Antarctica, the most deeply strange place on Earth, the Drake Passage is where that happens.**

This tumultuous realm—where the Pacific and Atlantic oceans converge at a latitude where water unimpeded by land flows in a continuous circle around the globe—was first sailed by Sir Francis Drake, the storied 16th-century English naval explorer. Winds and swells in the passage are commonly “hurricane” on the Beaufort scale. Its harrowing reputation prompted a 19th-century theory that the Drake Passage was a planetary drain leading to the South Pole, a notion Edgar Allan Poe used to terrifying effect in his short story “MS. Found in a Bottle,” in which a cargo ship passenger narrates the destruction of his vessel and the events before his death.

The Drake is not a drain, but it has sucked down more than 1,000 ships and countless sailors in the

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**UNDER FULL SAIL: The *Endurance*, photographed during the Imperial Trans-Antarctic Expedition, before it was crushed by ice floes in 1915.**

four centuries since men started crossing it, lured by dreams of ice and adventure. According to lore, in 1914 over 5,000 adventure seekers responded to an ad that Ernest Shackleton placed in a London newspaper for something called the Imperial Trans-Antarctic Expedition: “Men wanted for hazardous journey, small wages, bitter cold, long months of complete darkness, constant danger, safe return doubtful. Honour and recognition in case of success.” The text of that advertisement might be a myth, but what is certain truth is that Shackleton handpicked 28 applicants from a large and eager pool to accompany him. They, plus packs of sled dogs and a ship’s cat, set sail from Plymouth on August 8, 1914, on a ship called the *Endurance*, aiming to become the first men to traverse Antarctica on foot.

The venture quickly turned calamitous. The *Endurance* safely crossed the Drake, but when it hit the ice-strewn water around Antarctica, things went very, very wrong. The ship sailed to within 80 miles of the Antarctic coast before it got stuck in pack ice—vast, thick floes that form on top of the ocean and

FROM LEFT: FRANK HURLEY/SCOTT POLAR RESEARCH INSTITUTE; UNIVERSITY OF CAMBRIDGE/GETTY; RALPH LEE HOPKINS/LINDBLAD; PREVIOUS SPREAD: MARRIA STENZEL/NATIONAL GEOGRAPHIC CREATIVE



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**BIRD HO!: In 2015, cruise ships take passengers into the Antarctic circle, where they can hop into rubber Zodiac boats to visit with penguins.**

move with the currents and winds. By February 1915, pack ice was pushing against the *Endurance*. By then, the ship was way off schedule, and the men knew they would not be marching across the continent anytime soon. Rather, they watched helplessly as the ice slowly crushed the *Endurance* into kindling.

For 16 months—four in the complete darkness of the Antarctic winter—the men and their sled dogs lived on an ice floe in canvas tents and slept in reindeer fur bags, surviving on melted snow, a small daily ration of lard and dried meat, as well as, occasionally, seal or penguin meat. As the Antarctic summer came on, the ice beneath them softened and began to split, and in April 1916 the men were forced to abandon camp (after mercy shooting their sled dogs, puppies and camp cat). With ice cracking under their feet, they flung themselves into small lifeboats and rowed for seven harrowing days to a speck of terra firma called Elephant Island.

Realizing his men would die there if they didn't move quickly, Shackleton chose five to accompany him on a last-ditch effort to get help. They crossed

the dreaded Drake yet again, this time in one of the open lifeboats with the crudest navigational device, enduring another two weeks of ice and storms at sea, before landing at South Georgia Island, then hiking for 36 hours over a mountain range to a whaling station. When they finally reached the outpost of civilization, children ran from the sight of the men with faces black from many months of seal-blubber smoke, and hair and beards down to their chests. Months later, Shackleton managed to find a boat strong enough to get through the ice to Elephant Island, and he rescued the rest of his men.

That expedition was the last in what's called the Heroic Age of Exploration, when many raced to Antarctica, the final unexplored continent, in the name of commerce and empire, vying to be first to see what could be seen and take what could be taken. Today, the Antarctic is being prospected yet again. But these days, the continent's explorers are a different breed: men and women of science who are looking not for commodities but for answers to some of the most pressing questions facing humankind.

The history of the planet is held in frozen suspension in the Antarctic. What we can see of the continent with our eyes—vast, nearly lifeless, an otherworldly expanse of blue and white—is a fraction of the story. Vertical miles of ice encase air bubbles that hold bits of atmosphere of a truly ancient vintage, some dating as far back as a million years ago. Fossil records show the place was once green, teeming with life and connected to the great Pangea land mass before it broke off from what would eventually become Australia and the Indian subcontinent, and moved south. Isolated by the encircling frigid sea, it became the world's refrigerator, with 90 percent of the planet's ice (and 70 percent of the world's freshwater) atop just 10 percent of its land mass.

But those 7.2 million cubic miles of ice are now melting at unprecedented rates. If they were ever to melt completely, sea levels would rise nearly 200 feet. That worst-case scenario probably won't occur, but the Antarctic Peninsula is already warming at a rate five times faster than any place on the planet. Scientists have predicted that even partial melting of the Antarctic ice will raise sea levels enough to force the 150 million people around the world who live 3 feet or less above the sea—including parts of New York City, Miami and Mumbai, India—to abandon their homes. It would destroy harbors and ports, and trigger a cascade of environmental catastrophe, ruining wetlands and decimating the ecology of the world's watersheds.

Uncovering the history stored in that Antarctic ice could help scientists understand exactly how much ice will be lost and when the sea will rise. That's why it attracts researchers from a variety of different countries—many of which, Russia and the United States and China, for instance, are not on particularly warm terms anywhere else. Under the International Antarctic Treaty, the nations have collectively agreed to leave Antarctica unclaimed. Some clearly hope to eventually control and harness resources like freshwater and seafood, but the agreement on Antarctica's protected status went into effect in 1998 and will remain in place until 2048. So for now, it's essentially a giant Earth sciences lab.

## Taxidermy and Mango Panna Cotta

**IF YOU'RE NOT** a scientist with access to a cargo plane taking off from New Zealand, the only way you're likely to see Antarctica is by crossing the Drake aboard one of the 31 passenger ships and 20 charter yachts that ply these waters in the summer months. About 35,000 people annually take a ride on one of these ice-cutting ships, which are heavier than other seacraft, designed with specially curved steel bows,

**+** BEFORE THE STORM: The officers and crew of the *Endurance* under the bow of the ship at Weddell Sea Base. Despite the tremendous hardships they faced on the expedition, only three lives were lost.



powerful engines and propellers made to work in ice. Modern technology has changed almost everything about Antarctic travel since the great age of polar exploration, but it cannot alter the way the human body reacts to the untamable Drake. One stormy night during our crossing, while I was pinned to my bed by the bucking ship, trying to subdue the gray-green worm of seasickness slithering around my torso, my cabinmate, Charlie Wittmack,

CLOCKWISE FROM LEFT: RALPH LEE HOPKINS/LINDBLAD; FRANK HURLEY/SCOTT POLAR RESEARCH INSTITUTE; UNIVERSITY OF CAMBRIDGE/GETTY; FRANS LANTING/NATIONAL GEOGRAPHIC CREATIVE



**AN EARLY 20TH-CENTURY WRITER DESCRIBED THE FLAVOR OF PENGUIN AS DUCK AND BEEF COOKED IN COD LIVER OIL AND BLOOD.**

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**AN ICE LIFE:** Gentoo penguins, below, live below the Antarctic Circle. They have been listed as “near threatened” since 2007; on land, their only predator is humans, who kill them for their oil and skin.



leaped up in the dark and snatched a trash can. Wittmack is a seasoned explorer who has survived malaria, a broken back, cerebral edema and more on prior expeditions. If the Drake Passage could fell him, it didn't look good for me. And indeed, for the next 24 hours, I lost all sense of boundary between my body and the motion, as 30-foot swells sent us on carnival-ride plummeters through the air three or four times a minute.

By the second morning out of South America, the sea calmed and shouts of “Land ho!” went up as we spied some of the islands north of the Antarctic Peninsula. We donned parkas and life jackets and boarded Zodiacs, small, black, heavy-duty rubber motorboats that sit low enough in the sea that one can touch the broken ice clicking and hissing in the 28-degree water. If you fell in, you'd survive four minutes, max. The Zodiacs pulled in close to humpback whales and penguins, but we couldn't go near the fantastic icebergs looming in the distance; though they seem serene and inviting with their radioactive-blue glow, they're dangerously unstable, liable to shatter without warning, sending giant shards falling into the sea.

The man behind the zany idea of plopping landlubbers into rubber dinghies in the Antarctic Ocean was an eccentric Swedish world traveler named Lars-Eric Lindblad. In the early 1960s, Lindblad was leading a band of jet-setters across the Mongolian desert when he decided it was time to take tourists down to Antarctica. He had never been there, but he borrowed a transport vessel from the Argentine navy, which helpfully tossed in an Antarctic tug and ice breaker, and he sold his first trip to 56 passengers. The tour was straight out of a Monty Python movie, with one elderly passenger who, he later wrote, forgot her name while at the Buenos Aires hotel; a self-described “nymphomaniac” who informed Lindblad soon after boarding that she had selected the ship's second in command to help her satisfy her lust; and a woman who had a psychotic break while on the voyage, ran through the ship naked and had to be restrained in her room and spoon-fed by fellow passengers for the rest of the journey.

The ship carrying us, the *National Geographic Explorer*, is an ice-cutting, refurbished Norwegian coastal ferry, owned and operated by Lindblad Expeditions, under the stewardship of Lindblad's son Sven, who runs the company as a sedate, profitable, conservation-minded enterprise. He has, for example, hosted on the ship an Arctic Summit attended by Jimmy Carter, and Al Gore's climate change organization chartered the same vessel for a conference in Antarctica. Typically, cabins are not cheap, starting at \$12,970.

I secured my passage on the *Explorer* by virtue of a book I wrote about early explorers of Egypt. After it was published, I was invited to join the Explorers Club, a relic from the 19th-century New York



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**SHIPSHAPE:** The reporter's ride to Antarctica: the *National Geographic Explorer*, a refurbished Norwegian coastal ferry.

City social scene, when bagging exotic game was not a felony and the world's far edges had not been Instagrammed. Membership leans gray and male, and it has a venerable pedigree. Polar explorer Robert Peary's sledge hangs from the rafters above the lecture hall in the club's Upper East Side headquarters, and lunar astronauts occasionally show up to tell tales among the narwhal tusks, taxidermied cheetahs and lions. At Explorers Club events, Wittmack and I had discussed what *exploration* means in an era when most of the world has been named and mapped. An opportune moment to find out arose when representatives from Lindblad

**“THERE ARE NOT ENOUGH WORDS IN THE ENGLISH LANGUAGE FOR THE MANY SHADES OF BLUE HERE.”**

Expeditions, whom I had met through the club, invited journalists and artists on an Antarctic tour to mark the centenary of Shackleton's trip.

We flew to Buenos Aires and then took another flight on to Ushuaia, Argentina, where we boarded the *Explorer* and followed the *Beagle Channel* (named after Charles Darwin's legendary ship), leading out past Cape Horn. Our shipmates on the *Explorer* were a band of middle-aged world travelers and wealthy retirees, many ticking off their seventh continent or working through a bucket list. One intrepid ice lover had been to Antarctica four times; another was celebrating a 50th birthday. A gaggle of elegant, gray-headed Vassar and Smith alumnae were on board as part of a trip organized by the alumni association. One woman was in a wheelchair, on oxygen. Some passengers were so old they could barely walk on land, let alone in the pitching boat. The 3-year-old daughter of one of the ship's officers rounded out the passenger manifest.

Infants and the infirm are now able to voyage to a part of the world where safe return was not assured

FROM LEFT: RALPH LEE HOPKINS/LINDBLAD; CHARLIE WITTMACK FOR NEWSWEEK



until recently. Today, Antarctic travel includes hot showers, gym and sauna access; a sun-splashed lounge with dozens of flat-screen TVs; and ship-board Wi-Fi, enabling us to Instagram our penguin and iceberg pictures in real time. We feasted daily on gourmet meals, complete with green salads, French cheeses and desserts like mango panna cotta—gluttony unimaginable to the polar explorers of yore but perhaps justifiable, given that, as Gabrielle Walker wrote in her evocative book on modern Antarctica, life here is “survival not of the fittest, so much as the fattest.”

The biggest draw of the Antarctic, though, is its growing fragility. Leaving New York in late fall, the weather was freakishly warm, an effect of a particularly strong El Niño exacerbated by unusually warm Pacific Ocean waters. International leaders and environmental advocates were descending on Paris for COP21, the climate conference to address the reasons behind global warming and catastrophic polar ice melt, and on board the *Explorer* there were lectures on climate change. “A lot of people come to the polar regions because climate change is such a feature in our news,” says the ship’s “expedition leader,” Lisa Kelley, who travels to both the north and the south polar regions every year. “Often we hear people say, ‘Oh, we want to go there before it’s gone.’”

## A Taste of Penguin

**OUR LANDINGS** were closely supervised to limit the risk of ecological impact. The minute we set sail from Argentina, we signed a form promising not to bring anything onto Antarctic shores other than our scrupulously vacuumed clothes and sanitized boots. A PowerBar or stick of gum would have gotten us banned from future hikes, and, we were told, environmental lawyers up north had nothing better to do than examine social media photographs from tourists, looking for treaty violators hugging penguins and baby seals.

The Zodiacs took us ashore first on Half Moon Island, a curve of black pebble beach set against mountains layered with whorls of snow. The reflected sunlight was blinding, and the smell of

penguins reminiscent of back alleys strewn with shrimp shells in New Orleans. Our first penguins! Oh! Cameras started clicking as the iconic, chicken-brained creatures waddled among our legs. They were oblivious to us and on a mission, each selecting a single beach pebble to carry in its beak uphill to a rookery, making stone nests for their pale-blue eggs. It was a task they managed with great dignity, walking hundreds of snowy yards up and down the mountain like old men in an old country doing something the hard way simply because that’s how it’s always been done.

These cute creatures saved the lives of some stranded polar explorers of earlier times, who ate them and thereby not only avoided hunger but also recovered from scurvy (penguins, like oranges, contain vitamin C). Today, no one seems to know—or will admit to know—how penguins taste. The last documented penguin meal occurred on a scientific expedition in the 1960s. An early 20th-century writer described the flavor as duck and beef cooked in cod liver oil and blood.

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**BLINDED BY THE WHITE:** Passengers of the *National Geographic Explorer* test their snow legs while the ship awaits their re-embarkation.



We were instructed to remain at least 15 feet from these birds (though as long as they approached us, we were not at fault). We were also told to stay on the path marked by orange cones—if we strayed, we might end up poking holes in the snow as deep as our knees, into which a penguin could fall, get stuck and die. The environmental micromanagement was poignant. This was, after all, one of the islands where humans by the early 19th century had hunted



fur seals into near extinction, and in waters around us, as recently as the 1960s, Russian and Japanese whalers harvested a giant whale—usually humpback—every 22 minutes. But it also felt incongruous that a single hole in the snow could be an ecological crime in a place where one of the greatest ice shelves on the planet is melting thanks to our power plants and cars, not to mention the portion of jet fuel we had each burned to fly down here to snap photos of icebergs and penguins.

By the third day out of Cape Horn, we were below the 66th parallel—the Antarctic Circle—and nosing in and around bays and coves with names like Exasperation Inlet and Cape Disappointment. Every morning, we woke up to stranger and stranger landscapes: It is still on Earth, but Antarctica is very much alien land. In his book *The Future of Life*, Nobel-winning American biologist Edward O. Wilson wrote of Antarctica, “On all of the Earth, the McMurdo Dry Valleys most resemble the rubbled plains of Mars.” Antarctica is not quite as uninhabitable as Mars, but almost. Human life is supportable there only with generators and heated stations, and all food and supplies must be brought in during the summer and stored for use over the winter months, when there is no way in or out.

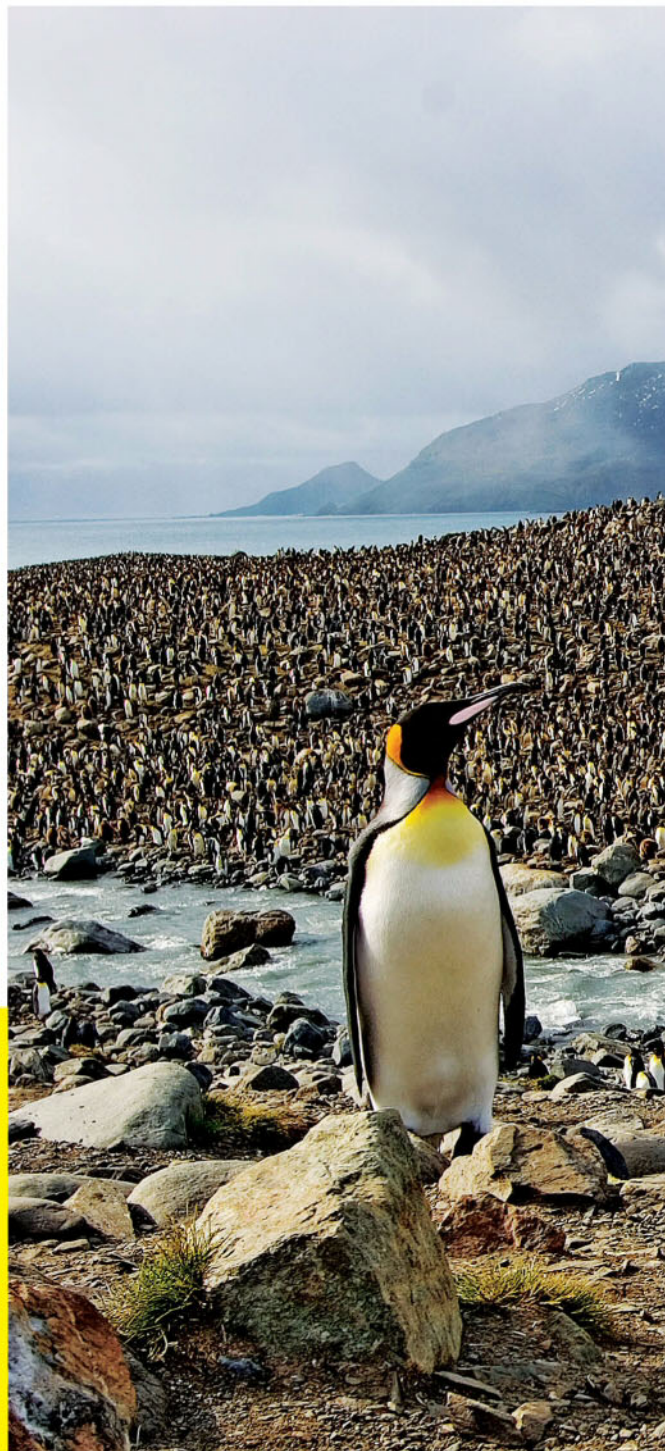
It’s a place that tricks the eye, a natural *trompe l’oeil*. On land, the whites stretch on forever, and snow, peak and cloud mingle so voyagers lose track of the difference and distance is impossible to gauge. At sea, icebergs loom out of the fog, looking like cubist Gothic castles or an abstract Sphinx. And there are not enough words in the English language for the many shades of blue here, just metaphors alluding to the Caribbean Sea, the unstable edge of the periodic table or my newly frozen lips.

In this odd realm of in extremis, explorers have reported uncanny experiences. After their ordeal, Shackleton and his men confessed that they had all sensed the presence of a “fourth man”—an unseen someone alongside them the whole time. It wasn’t the first such encounter, nor the last. The snow and the physical and psychological hardships of the Antarctic can cause hallucination, even in the strongest of men and women. In 2012, polar explorer Felicity Aston became the first woman to ski solo across the Antarctic continent. At some point during her 63 days alone, she started talking

+

**ROYAL BIRD:** The king penguin is one of the most iconic Antarctic birds. During the 19th and 20th centuries, they were harvested extensively, but a hunting ban has been in place since 1969, and they now thrive.

**CAMERAS STARTED CLICKING AS THE ICONIC, CHICKEN-BRAINED CREATURES WADDLED AMONG OUR LEGS.**



to the sun—and it talked back. Eventually, she had entire conversations with it. “The scariest thing I realized was I couldn’t rely on my own mind and my own sense,” she has written. She later asked a sports psychologist whether she ought to worry about going crazy. The psychologist replied that as long as she knew what was real and not real, she was fine. Aston, a climate scientist by training, concluded, “There are different layers of self-perception. I got a glimpse at just how complicated the brain can be.”



## Reporting Back to Rush Limbaugh

**THESE DAYS**, radar, sonar, satellite images and the benefit of a century of science can help ships' captains and crews predict the movement of ice, so the majority of tourists on "expeditions" face almost none of the challenges that beset the explorers of yore.

Of course, Antarctica still attracts a certain breed of daredevil—those who go well beyond the orange cone-ringed paths we took. There are, for exam-

ple, the mountaineers who aim to climb the highest points on all seven continents; they wait years to get a permit to climb the 16,050-foot Vinson Massif, the highest peak on Antarctica, so remote the flight to the base alone costs \$28,000. And beginning this month, British military advisers are overseeing the Antarctic Endurance 2016, a six-week sailing and mountaineering expedition in the Weddell Sea and on South Georgia Island that aims to "stand on the shoulders of Shackleton to inspire a new generation

of sailors and Marines” and study the challenges of making decisions in a “real-world, arduous military training environment.”

But the Antarctic explorers today that most closely share the spirit of Shackleton’s explorers are the men and women doing science on and around the continent. The National Science Foundation runs three American bases—Palmer, McMurdo and Amundsen-Scott—and 30 other nations operate 70 more bases, with around 4,000 men and women working in Antarctica during the summer. One thousand of them—the extra-hardy—over-winter there, spending four months huddled with generators in near-total darkness, enduring keening wind and epic snowstorms. Scientists in the remote field camps face great danger in any season. Supply planes can run into trouble in storms or skid into ice crevasses camouflaged by snow. Merely walking around is perilous because of the deep, hidden openings.

Then there are the polar divers, oceanographers plunging daily into the icy brine with cameras, seeking new life forms. One of these, Alyssa Adler, a 26-year-old from Portland, Oregon, works on the *Explorer*. “I feel like an aquanaut,” she says, after spending 35 minutes pulling on the requisite gear. “By the time you are ready, you are not a person getting into the water; you are a thing in a suit, getting into a foreign medium.” And when she emerges—either after she can’t take it anymore or the 45-minute limit passes—her hands are stiff and frigid, she has brain freeze, and, she says, “my feet are just cold stubs.”

Emerging alive from Antarctic waters is never guaranteed. In 2003, a sea leopard, a reptile-faced, 12-foot-long predatory seal at the top of the Antarctic food chain, dragged a snorkeling scientist, who was studying sea ice near one of the bases, down 240 feet, then took the corpse back up to the surface to try to eat it in front of the victim’s companions. Death here is always a possibility, and discomfort is guaranteed. Those in the field don’t bathe for months. Antarctic winter still drives some men mad: An Argentine base commander burned down his buildings in the 1960s when informed that the ice cutter wouldn’t be able to come fetch him before winter set in, forcing the navy to rescue him.

Like the explorers competing to plant a flag at the South Pole, scientists who go to Antarctica today are responding to a global challenge, but they have a much different goal in sight. The international Scientific Committee on Antarctic Research (SCAR) recently ranked climate change first of 80 questions its scientists believe need to be studied in the Antarctic. On Antarctica today, they are trying to understand and predict the behavior of ice in response to human burning of fossil fuel, which has increased carbon emissions since the Industrial Revolution by a factor of 130, from 200 million tons

+ **CHEATING DEATH: After the *Endurance* was crushed by ice and sank, the crew was forced to camp on ice floes for months—until the summer, when the ice began to melt, and a daring rescue commenced.**



of carbon dioxide annually to 27 billion tons today.

One of the most impressive efforts to understand what’s happening to Earth is an ice coring project at one of the summits of the Antarctic ice sheet, called Dome C, where scientists drilled down 2 miles, pulling up air bubbles with atmosphere samples from 800,000 years ago. By analyzing these ancient air bubbles and comparing them with air samples from all the ice above it, scientists determined that there has almost never in history been as much carbon in Earth’s atmosphere as there is now. That’s helped confirm that we are in an unprecedented period of planetary warming and shifts in climate patterns.

The Antarctic Peninsula is bearing much of the brunt of those climate changes. But even so, a few days there is not enough time to “see” global warming in action; looking at all the ice, one climate change denier on the ship joked that he was planning to report back to Rush Limbaugh that “it’s still really cold” in Antarctica. But animal behavior here is already changing: Some creatures are now found farther south than they used to be, seeking colder water, and some penguin colonies have disappeared. And scientists as recently as last fall predicted that a complete western Antarctic ice melt—which they say is inevitable and probably already underway—would raise sea levels by about 10 feet in a just few centuries.

Ninety-eight percent of the Antarctic continent lies beneath an ice sheet: miles-thick ice covering a vast area that has formed over hundreds of thousands of years. There are two ice sheets on Earth; the other covers Greenland. Antarctic ice is not melting as obviously or as quickly as the ice sheet in Greenland—where 80 percent of the surface ice is now melting every summer. This past November, researchers announced that losses suffered by the Zachariae Glacier in that country’s northeast could open up a second “floodgate” of ice melt, joining the notoriously fast-retreating Jakobshavn Glacier in the west. But Antarctica appears to be the next to start hemorrhaging ice: Scientists are finding fragile points on the continent’s western coast, where seawater overheated by global warming is slowly working its way beneath glaciers.

The weight of millennia of ice has pushed the landmass of Antarctica below sea level. Currently, only an underwater ridge is keeping one large and pivotal



LEFT: FRANK HURLEY/SCOTT POLAR RESEARCH INSTITUTE. UNIVERSITY OF CAMBRIDGE/GETTY (3)

glacier, the Thwaites Glacier, which has been called “the weak underbelly” of the western portion of Antarctica’s ice sheet, from breaking off and falling into the sea. Scientists are noticing the glacier is starting to “lose its grip” on the ridge as it melts, and once it retreats behind the shelf, computer models indicate that the warmer-than-usual seawater will rush under and around it, creating channels of flowing water that will erode the glacier from the inside out, causing it—and quite possibly the entire western Antarctic ice sheet behind it—to eventually slide into the sea.

Scientists are as certain as they can be that this will happen. What they don’t yet know is when. The most pressing work in the Antarctic is to get a handle on whether this catastrophic melt is likely to happen over a long period of time or within a few decades. Their findings are of the utmost significance to every human on the planet but are particularly pressing for



the hundreds of millions of people who live in coastal regions—according to one estimate, sea-level rises and coastal flooding will cost \$100 trillion annually in lost infrastructure and industry by 2100.

## The White Bird of Guilt

**FOR THE NONSCIENTIST**, there is almost nothing to see in the Drake Passage besides water. At one

point, a naturalist on board the *Explorer* pointed out an albatross flying overhead. The legendary white bird of the Southern Hemisphere, with a 12-foot wingspan, is capable of gliding over 600 miles a day without once flapping its wings. But what immediately came to mind was the saying “an albatross around his neck,” adapted from a 1798 poem by Samuel Taylor Coleridge, *The Rime of the Ancient Mariner*. In it, a wizened old sailor interrupts a young man en route to a wedding—and proceeds to unload a long, uncanny tale on the bewildered, then horrified wedding guest.

The mariner tells of being on a ship that drifted off course into a land of ice—the Antarctic. Eventually, an albatross flew overhead, and the mariner, for no good reason other than sport, shot it dead with a crossbow. Almost immediately, bad luck befell the ship. The crew ran out of drinking water, and the ship was becalmed. The sailors attributed this ill luck to the killing of the albatross. They later tied the bird’s carcass around the mariner’s neck, evidence of his guilt that he could not hide. Coleridge wrote the poem at a time when the Antarctic was still unexplored, but already commerce had churned its way down to put natural resources at the service of civilization. Whaling and sealing operations were in the process of rendering sea mammals in the Antarctic region almost extinct.

In the poem, Death plays dice for the souls of the crew and wins every roll—except one. The mariner who narrates the story is left alone on the ship, condemned to “death in life,” surrounded by what he considers to be loathsome, “slimy” sea creatures. As time passes, though, he sees the animals’ beauty and is filled with love for them. Rescued both spiritually and physically, having learned to love nature, the mariner travels the world carrying a message about caring for Earth and all its inhabitants.

Over 200 years later, visitors to the Antarctic return with the same message. “Basically, it changes your life,” says Jenny Baeseman, head of SCAR. “Working there changed me because I no longer thought of science as something I did in my lab. I felt a deeper appreciation of the work and a desire to give back and to tell people what I learned.” For me, the spectacle was like the surreal travel of dreams. One afternoon, we hiked up one of the bays, where a 360-degree panorama of cream-coated peak after peak was reflected in a black sea flecked with icebergs like an *île flottante* dessert. But most of all, the gorgeous, melting Antarctic mutely testifies to the enduring relevance and new urgency of Coleridge’s poem:

*He prayeth best, who loveth best  
All things both great and small:  
For the dear God who loveth us  
He made and loveth all.* **N**

**+**  
**ALONG FOR THE RIDE:** A group of chinstrap penguins riding an iceberg through the Weddell Sea, where the *Endurance* sank in 1915.





**PRAY**

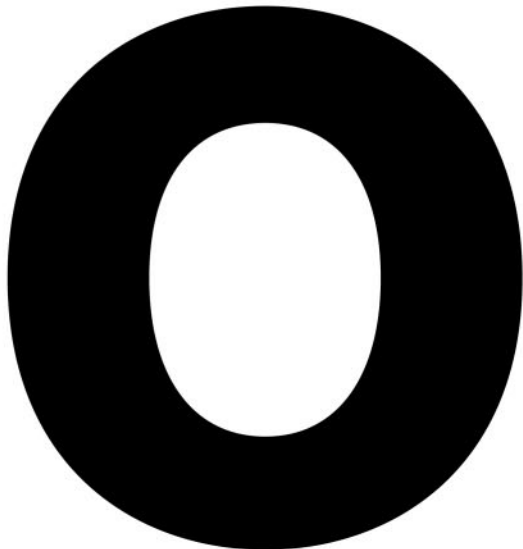
**ALLAH**

**RETURNS**

**THE  
MOON**

DESPITE DANGER AND  
SUPERSTITION, ASTRONOMERS  
IN A PERPETUAL WAR ZONE FIND  
JOY IN THE NIGHT SKIES

BY **DANIELLE MOYLAN**  
PHOTOGRAPHS BY **ANDREW QUILTY**



**ONE NIGHT A FEW YEARS AGO**, Yunos Bakhshi and a small group of friends drove out in the darkness to a field about 15 miles from Kabul. For the Afghanistan Astronomy Association, it looked to be the perfect night. They had been assured the field had been cleared of land mines, and the Taliban weren't usually active in the area.

Illumination from Bagram U.S. military base blazed in the distance, emanating an annoying level of light pollution, the astronomer's most common enemy. But the sky was otherwise dark and clear; good enough conditions to observe the Messier 4 star cluster from their modest telescope. Bakhshi and his friends lit a barbecue and began to align their tripod-mounted telescope to locate the bright mass of stars, found in the Scorpius constellation.

After a few minutes, they noticed a car's headlights bumping toward them across the field. Suddenly, the group was surrounded by agitated police officers, guns pointed.

In most of the world, an amateur astronomer can drive to a dark place, set up a telescope and enjoy the beauty of the sky above. But in Afghanistan, a country plagued by 36 years of war, a few men gathered around a telescope pointing toward the sky, in the middle of nowhere, looks pretty suspicious. From a distance, the police thought the telescope might be a rocket launcher.

After careful inspection, the police still couldn't comprehend why anyone would sit in a field, in the cold, to look at stars. Although they'd never seen a telescope before, they conceded that this probably wasn't a weapon.

Calling the astronomers halfwits, the police left. Spooked, most of the stargazers took off too, leaving Bakhshi and two others. Shortly after, they heard helicopters approaching. Terrified that international forces might have mistaken

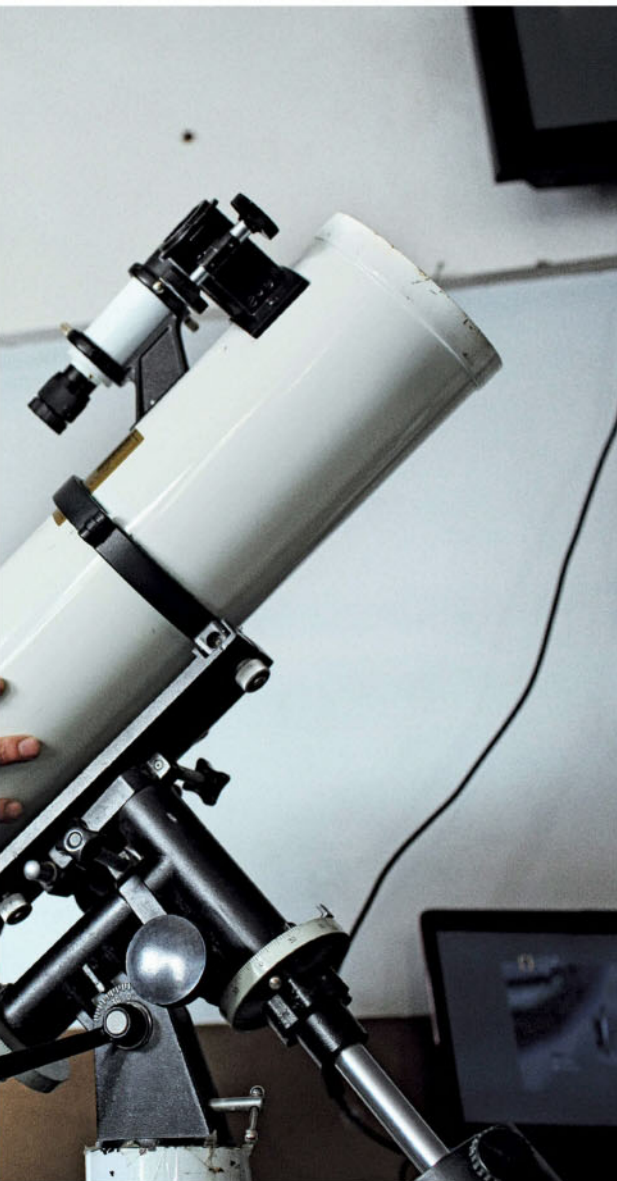


**+ DREAMER:** Bakhshi is the founder of Afghanistan's first Astronomy Association, which works with schools to spread knowledge of science and the stars.

them for insurgents, they lay flat on the ground, praying the night-vision of the pilots would be clear enough to recognize a telescope. The helicopter passed over without incident, but as Bakhshi says, "To say that it is a little bit difficult for us is an understatement."

Afghanistan's war has taken a devastating toll on civilians: death, displacement, poverty. But it also affects lives in unexpected ways. For the country's small band of amateur astronomers, exploring the universe's deepest corners is a risk they now rarely take. The increasing encroachment of the Taliban, criminal gangs and aggressive police checkpoints means they now limit observations to the outskirts of Kabul city or their rooftops. "The places where there are the darkest skies, almost all those places are insecure," says Ibrahim Amiri, 26, one of the youngest members of the Afghanistan Astronomy Association.





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**TWILIGHT: Amiri assembles the Astronomy Association's most powerful telescope, seen in operation on the previous page. It was donated by South Korea.**

His eyes shine as he describes the high altitude and low light pollution of Badakhshan in the north and the open horizons of Kandahar in the south, both perfect regions for stargazing. “But we could be attacked by anyone [there]. Not just Taliban or ISIS, but even the local people,” he explains. “Afghans, especially villagers, are usually not very comfortable with people they don’t know or things they don’t understand.”

The majority of people in Afghanistan don’t understand even the basics of astronomy. Celestial events often feed superstition or are explained through astrology. When Bakhshi

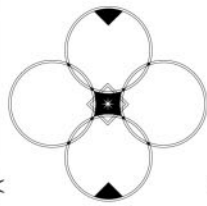
went to the Ministry of Justice to register the Astronomy Association, an official held out his palm and asked him to read his future.

Many misunderstandings and superstitions continue to be taught in some mosques. During a lunar eclipse, one of Amiri’s neighbors frantically banged on all the doors, pleading for everyone to come outside to pray. Amiri tried to explain that there was no reason to be fearful; eclipses were natural, predictable events that had occurred for billions of years. “No,” Ibrahim recalls his neighbor saying. “This is a critical point. You must come and pray, or God will be angry.”

Mohammad Naser, a taxi driver, says he also prays during eclipses, at the advice of his local mullah. “We must pray so Allah will return the moon,” he says.

Pregnant women are often advised not to touch their faces during an eclipse, as it could result in a birthmark on the child’s face. Another common superstition warns that a pregnant woman who touches a knife during a cosmic event, such as an asteroid passing, risks causing disability or malformation to her unborn child, such as a cleft lip.

Bakhshi is on a mission to teach as many Afghans as possible astronomy as a science, to provide an alternative to superstitious or religious explanations. There have been



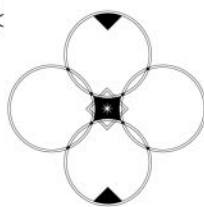
**“TO SAY THAT IT IS A LITTLE BIT DIFFICULT FOR US IS AN UNDERSTATEMENT.”**

# PREGNANT WOMEN ARE ADVISED NOT TO TOUCH THEIR FACES DURING AN ECLIPSE, AS IT COULD RESULT IN A BIRTHMARK ON THE CHILD'S FACE.

uncomfortable moments for Bakhshi during his voluntary lectures, which he usually gives at private schools in his spare time. Suspicious teachers have asked him how the Big Bang theory can co-exist with Allah's creation of the Earth in six days. When looking through a telescope, one teacher asked to see the split in the moon, a miracle attributed to the Prophet Muhammad. "I try not to argue over the issue but propose another point of view," says Bakhshi. He tells people, "It's up to you to find your answers."

"We're not focused on proving to people that science is against religion," adds Amiri. "I personally don't think astronomy conflicts with religion at all."

During Europe's Dark Ages, Islamic civilization bounded ahead in both astronomy and physics. Muslim astronomers built observatories all over the Islamic world, refined and revised Greek astronomical theory and made breakthrough



**STARS IN THEIR EYES:** At the private Marefat High School in Kabul, both boys and girls are members of the astronomy club.

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improvements to astronomical instruments, all of which has had a major role in shaping modern-day science. "For many educated Muslims, the Koran is not to be read as a book of science," says Nidhal Guessoum, an astrophysicist at the American University of Sharjah in the United Arab Emirates. Rather, its aim is "to point to God's glory and purpose behind his creation." However, Guessoum says, conservative views have at times interfered with science's acceptance. "Ever since science started to reveal some aspects of nature or the universe that were in disagreement with traditional views, some conservative Muslim scholars have cautioned against the scientific theories or results that do not fit with that traditional picture," he says.

Bakhshi, for his part, firmly believes astronomy expands personal horizons, creates empathy and combats radicalism.

On a recent Saturday morning at Kabul's Marefat High School, Bakhshi paid a visit to inaugurate the school's very first astronomy club with the donation of a telescope. The class was besotted. Usually, the presence of a foreign photographer would send Afghan teenagers into fits of giggles, but on this day they were intently focused on Bakhshi's explanation of how to use the telescope.

Afterward, Abdul Basir, a 16-year-old student who introduced himself as the "Afghan Einstein," due to his love of physics, said after he first heard Bakhshi talk about the solar system, he asked his father to take him out of the city to look at the stars. "It really pushed me to think about how life is created and what our future is," Basir said of that night. That moment led him to think about issues like humanity and climate change, he said, and "why we are here and how we will live in the future."

On another late afternoon, as the sun disappears and the evening call to prayer echoes across the city below, Bakhshi, Amiri and a small group of men gather on the outskirts of Kabul. As he sets up a large telescope, cigarette





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**FUTURE  
EINSTEINS:**  
Bakshi visited  
Marefat  
High School  
to donate a  
telescope to  
the students  
and inaugurate  
an astronomy  
club.

dangling from his lip, Amiri recalls the first time he saw the moon up close. In an old schoolbook, he had discovered a guide to making a telescope and managed to fashion one out of an old chimney pipe. "I couldn't move my eye away from the telescope that night," he says.

One by one, the men peer at the moon through the telescope. The clarity is remarkable; the moon luminous and rugged with craters and mountains. For those who are looking through the telescope for the first time that night, each has the same reaction: astonishment and wonder, followed by a barrage of questions.

Mike Simmons, president of Astronomy Without Borders, an organization that supports amateur astronomy globally including in Afghanistan, says he is not surprised. "[The reaction] is really very much always the same.... Anywhere on the planet, when people see Saturn or the moon for the first time, they are just amazed by it." ✨

Seeing the solar system up close, Simmons says, "is akin to someone climbing on top of their house for the first time and seeing that there are lots of other houses, maybe some mountains and the oceans: It provides perspective for your own life."

When initially seeing Earth from space, some astronauts have experienced what is known as the "overview effect," a cognitive shift in awareness. They suddenly see our planet as a tiny, fragile ball of life, and at that moment national boundaries vanish and conflicts seem insignificant.

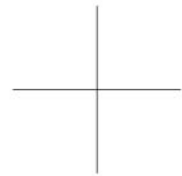
In Afghanistan, a country where strife and disappointment never end and suspicion of the unfamiliar is rife, that perspective of the vastness of the universe is important, says Bakhshi.

Packing up the telescope, Amiri says astronomy has helped open his mind. "Once you get in there, you stop thinking about the politics, the little stupid conflicts that [are] happening," he says. "And you start wondering about all the other amazing things out there." ✨





NEW WORLD



MEDICINE

INNOVATION

SPACE

SMARTPHONES

DISEASE

ENVIRONMENT

GOOD SCIENCE

## TALK ROBOT TO ME

# A tiny android that teaches German is helping refugee children better adapt to their new country

**ARTIFICIAL LINGUIST:** The NAO program is part of the bigger L2TOR project, which brings together experts from universities across Europe to figure out how to use robots to teach children foreign languages.

IN 2015, over a million refugees from war-torn countries like Syria, Afghanistan and Iraq entered Germany. Many of them are families with young children, and many will stay: According to German Interior Ministry spokesman Tobias Plate, half of the new arrivals have already applied for asylum, which means in the coming years German primary schools will see a massive influx of new students. But many of these young immigrants don't yet know the language of their adopted country—putting them at risk to quickly fall behind their peers. German scientists think they've found a solution: robots.

Researchers from the University of Bielefeld have launched a three-year project to see whether an autonomous, programmable robot can make it easier for 4- and 5-year-old children to gain the language skills they need to succeed in the classroom immediately. The French company Aldebaran Robotics developed the 23-inch-tall robot named NAO (pronounced

“now”) in 2004. Using a tablet, a camera and a microphone, NAO will help newly arrived children learn German by showing them pictures to convey simple words and expressions.

To make sure kids are comfortable around NAO, the robot is built to resemble a small, cute human, with a torso, a head, two arms and two legs. It can speak, walk—even dance—and has the ability to recognize faces and voices. Researchers at the University of Denver say NAO robots are better than people at triggering social responses in autistic children, who are often confused by facial expressions and vocal inflections.

The Bielefeld team is working to program the NAO robots to recognize and react to the children's language levels as they progress. Kirsten Bergmann, one of the researchers on the team, says they hope to have an army of NAO robots in classrooms around Europe within 18 months. Eventually, the robots could help kids all over the world become polyglots. **N**

BY

**NATALIE ILSLEY**

[@NatalieEmma123](#)

CITEC/BIELEFELD UNIVERSITY

## DISRUPTIVE

**LOOK, MA! NO HANDHELDS**

## Smartphones are getting outsmarted, and apps will be the next to fall

**GETTING A NEW** smartphone is becoming about as exciting as getting a new refrigerator.

You might've noticed this development if you got a new phone over the holidays. Or you will see it if you watch what comes out of the 2016 Consumer Electronics Show. Phones are where laptops were about 10 years ago. The design and purpose are fixed and well-understood, so all that's left are incremental improvements—making them a little thinner, adding a little more power or coming up with an occasional new feature like Samsung's notifications along an outer edge. (Be still my heart.)

From now on, all the real innovation will happen outside your phone—in apps, the cloud and other connected devices. “We’re at the cusp of a transition to wanting our technology on us and around us,” Phillippe Kahn, one of the great inventors of mobile technology, told me recently. “Instead of having to carry gadgets, technology will just be there. The more we forget the technology, the better.”

Intriguingly, this new world will also be a threat to apps as we know them.

This is not to say that smartphones are finished as a business. About 3.5 billion of the planet's 7 billion people own one. That leaves maybe another billion more potential customers—if you leave out small children, the 1.3 billion who live on less than \$1.25 a day, and the grandmothers clutching tightly their Nokia flip phones. And nearly everyone who owns a smartphone today will buy a new one every couple of years, if not

more frequently. This is why Apple is valued at more than \$600 billion.

Still, we are, over time, going to rely less on our phones, and instead get more things done by connecting to applications and services through a dizzying variety of things. Our attention will move from our phone screens to the ether—we'll feel that our apps are in the air around us, and can be accessed through any connected device we encounter.

Young consumers already seem to be tilting this way. In a survey by Ericsson Consumer-Labs, released in December, half of respondents said that by 2021 they might not even be using a smartphone. They expect to access apps in what they say are more convenient ways.

Like what? Well, cars, for example. Today, if you want your Spotify music and GPS maps and voice calls in the car, you carry your phone into the car, prop it up in the cup holder, and try to stab the screen with your thumb while going 72 miles per hour. We'll come to realize this is cretinous, not to mention hazardous. Cars of the next decade will connect to the network, respond to voice commands and display info like your playlists or maps on a heads-up display in the windshield. Instead of opening a discrete app to do something, you'll just say what you want—“play random Clash songs” or “pay my electric bill.”

Amazon's Echo is another nudge in that direction—along with Apple's Siri and Google Now. Set up an Echo at home, and the cylindrical



BY  
**KEVIN MANEY**  
[@Twitter](#)

device constantly listens for requests. Echo's software comprehends a properly phrased request, then goes to the cloud to do it—no phone required. The technology is still in its rudimentary stage, but you can see how it makes for a much better way to order Chinese takeout in the middle of sex versus fumbling for your phone on the nightstand and then tapping on the Seamless app.

No single device is going to replace the smartphone. The cloud and artificial intelligence software are going to replace the smartphone. We'll connect through whatever makes sense—a smartwatch, connected eyeglasses, a touch-screen kitchen counter, cars, Echo, Nest, Fitbit, Oculus Rift. Motorola Mobility recently patented a device that would get implanted under the skin and respond to voice commands. (Poking a gadget into yourself isn't as weird as getting a belly-button ring, which can't even hum the national anthem.) If a service needs to know who you are, it might scan your voice, face

or fingerprint. No more remembering 259 usernames and passwords.

Today each app focuses on one service, so anything you do on a device requires you to think first about which app to open. That's a barrier when you just want to get shit done. The technology needs to act more like a great personal assistant who already knows your preferences and understands your shorthand orders.

Plus, who wants to have to install a boatload of apps on your watch, car, implanted gadget and a dozen other devices? It would drive you nuts. As Google director Aparna Chennapragada says, the goal has to be to “de-silo and unbundle the function of apps” so software like Google Now, Siri or Echo can mix and match app services to accomplish the task you requested. Once that happens, we won't think of apps the way we do now. In fact, it's likely we won't think of apps at all.

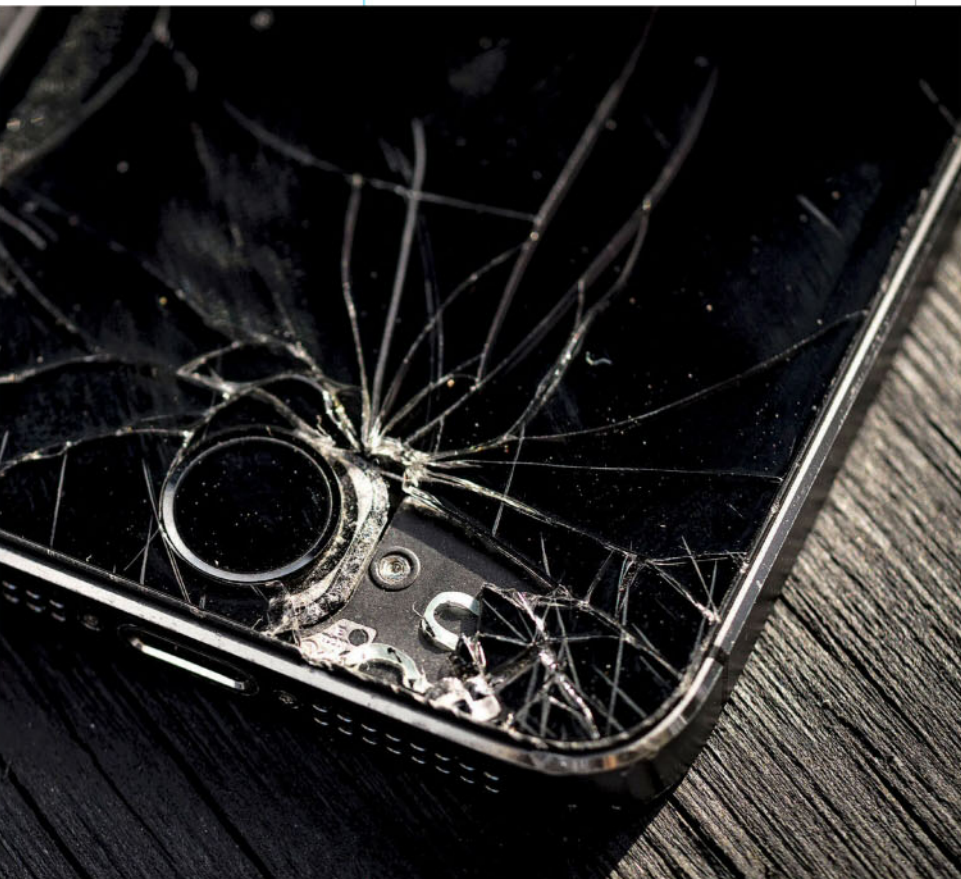
The smartphone physical gadget won't go away—no more than laptops have gone away. The device, though, is probably heading for a future as more of a pocket screen—something that allows you to watch videos, read news stories and take pictures when you're out. It won't be the center of your tech life—it will be an adjunct.

That's another way smartphones are like laptops. Not so long ago, new laptops were exciting to buy. They contained our lives on their hard drives and were our windows

**GORILLA GLASS CEILING:** The days of startling innovation in handhelds are over; many young tech users think they won't even have a smartphone a few years from now.

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STEVE MEDDLE/REX/SHUTTERSTOCK



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“INSTEAD OF HAVING TO CARRY GADGETS, TECHNOLOGY WILL JUST BE THERE.”

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to the world through the Internet. Now laptops seem more like work tools, and new ones don't seem much different from the one you bought a few years ago. Much the same fate awaits smartphones.

On the flip side, next-generation refrigerators will connect to the network and come armed with sensors and AI software that can automatically take care of important things, like understanding that you just ordered General Tso's chicken through Echo during foreplay, noticing that you're out of beer and ordering more to be delivered ASAP. Now that's exciting. **N**



## BLIND SPOTS

# What happens when scientists fall sick with the very disease they study?

**IN THE WINDOW** of her office at Stanford University Medical Center, Dr. Kimberly Allison keeps a transparency of breast cancer cells. “Beautiful,” she says, gazing at the tumor cells, each traced in a thin orange line and arranged in clusters resembling a honeycomb.

Allison’s job is to examine tissue samples for clues that can explain what exactly has gone wrong inside a person’s cells. She began her career in the mid-2000s, right when medical researchers started to recognize that all tumors and cancers are genetically and biologically distinct. In other words, two women with breast cancer might have two different types of cancer with little in common other than that they both occur in the breast.

Suddenly, drugs that targeted specific types of cancer were hitting the market, and a pathologist’s description of cancer became a powerful guide in determining which patients received the new treatments. The first of this class of drugs, Herceptin, debuted in 2006 to treat women with breast cancer tumors that have abnormally high numbers of a cellular receptor called HER2 that stimulates growth of cancer cells.

Allison became a breast cancer expert, in large part because of the HER2 discovery. “It was exciting to me that you could make such a difference in a patient’s treatment plan,” she says. “You weren’t just describing cancers. You were saving lives.”

Then, in March 2008, at the age of 33, she felt a shelf-like formation under her arm and went to the doctor for a diagnosis. She had breast cancer. “It was completely disorienting,” she says. She

remembers thinking, “I look at this all the time under the microscope, but this isn’t my story.”

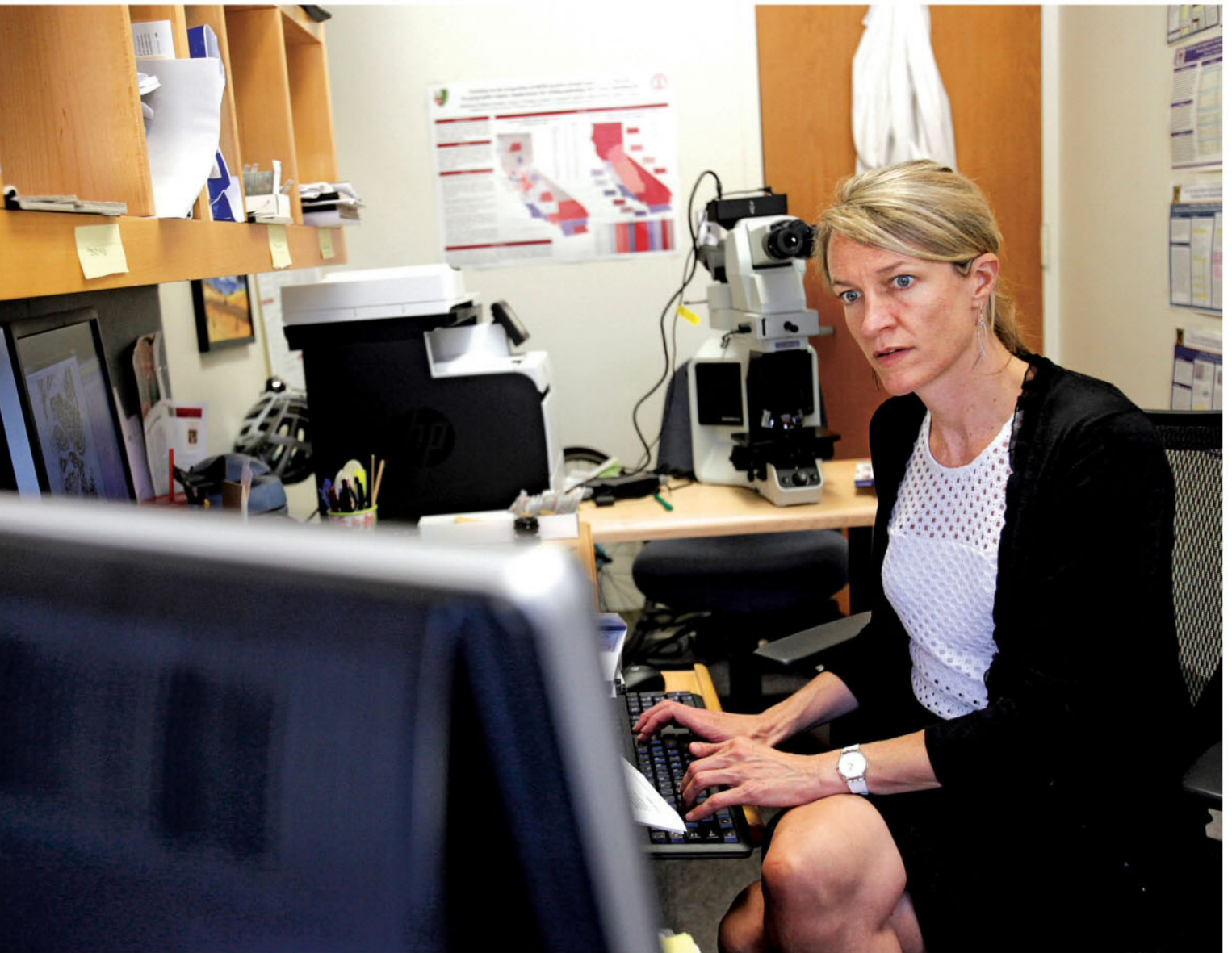
Slow-growing cancers appear almost like normal cells under a microscope’s lens. But then, Allison says, there are “big, bad and ugly” aggressive cancers. Instead of being neatly arranged into structures, these cancer cells swell and lose their tidy alignment. That’s what Allison saw when she peered through the microscope at her own cells. The cells’ outer membranes also glowed orange—the color of a special stain adhering to HER2 receptors. Allison had HER2-positive breast cancer.

It’s not often that scientists and physicians are stricken with the precise disease they study, but when it happens the shock is unsettling. Even after years of research, experiencing a familiar illness firsthand can make the disease suddenly terrifying. It can lend new urgency to tedious bench work that probes the molecular and genetic undercarriage of illness—but researchers tossed into the turmoil of life as a patient can also quickly lose sight of the neutrality they’ve developed.

In 1971, Ernie Garcia, a young astrophysicist turned radiologist at Emory University, developed software to allow cardiologists to peer into patients’ hearts. His Emory Cardiac Toolbox includes a program that tracks a “tracer”—radioactive material injected through veins—into the muscle of a beating heart. On a screen, physicians can watch chambers light up in bright colors if blood flow is normal, or turn black if it’s not. An abnormal reading indicates

BY  
**AMY NORDRUM**  
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**FOCUSED EFFORTS:** At age 33, Dr. Kimberly Allison was diagnosed with breast cancer. Today, she continues to work as a pathologist specializing in breast cancer at the Stanford School of Medicine.

coronary heart disease, which can cause heart attacks and affects 15 million Americans.

Garcia spent the next three decades working with heart patients. But he missed the signs completely in 2008, when he had a heart attack. One night in April, after a pasta dinner—heavy on the garlic—he felt a sharp pain in his chest. He attributed it to heartburn. “The esophagus and the heart tend to share a lot of the same nerves,” he shrugs. When he woke up the next day, his heart was racing. Colleagues at Emory University Hospital hooked him up to the toolbox he had invented to see how blood was flowing through his heart. Afterward, Garcia found his cardiologists just outside the door, huddled around a screen displaying his results. “They didn’t even have to say a word,” he says.

## GARCIA’S EXPERTISE HAD ALMOST KILLED HIM.

The blackened sections showed that the sharp pangs he felt months earlier were signs of a heart attack caused by coronary heart disease, and the damage was severe. Twenty percent of the functionality in his left ventricle was lost forever.

Garcia’s expertise had almost killed him. He dismissed his symptoms because over years of studying fatal heart conditions he had persuaded himself that he would never develop one. That psychological distance allowed him to treat others without fretting over the inevitability of his heart’s decline. “It gets to the point where you



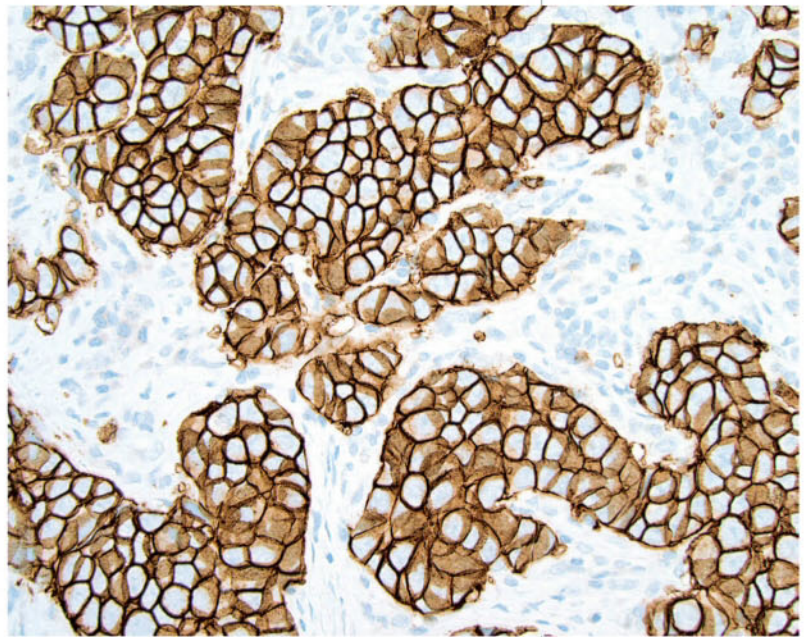
have to put a wall up—thinking, I’m not getting that,” he says. “Then, years later, that wall gets you when you think the symptoms are not real.”

Garcia was lucky; some doctors end up having to live with serious consequences of a poor self-diagnosis. As a young gastrointestinal oncologist specializing in colorectal cancer, Dr. Dusty Deming found his dream job at the University of Wisconsin-Madison, where he would spend half his time caring for patients and the other half in a lab, developing treatments. But Deming was hiding an embarrassing problem: He had been bleeding from his rectum for nearly a year. Such bleeding is a classic symptom of colorectal cancer. Deming knew that, of course, but he also knew that the vast majority of people diagnosed with colorectal cancer are at least 55 years old. He was only 31. He assumed he had hemorrhoids, but he was reluctant to seek care for such an embarrassing condition.

It was only once the bleeding worsened and he struggled to have bowel movements that he finally signed up for a colonoscopy. During the exam, his doctor found a large tumor in Deming’s colon. “We didn’t even have to confirm it,” Deming says. “As soon as they showed me the colonoscopy pictures, I knew what we were dealing with.” Surgeons removed portions of his colon and inserted an ostomy, a permanent opening that leads directly from his colon to a pouch that he empties as it fills with waste. If he had visited a doctor when he first noticed the bleeding, he might have spared his colon.

But there is a silver lining. Deming says several of his patients who had refused surgery because they couldn’t imagine life with an ostomy changed their minds after talking with him. “I actually can’t think of a more rewarding thing,” he says.

Deming now works with colleagues to develop treatments for specific types, or subtypes, of colon cancer. His lab uses genetically engineered mice to design personalized regimens for patients depending on the mutations in their cancers. He remains purposefully ignorant of his own subtype. “If I knew what subtype I had, that’s probably all I would want to study,” he says. “I think it’s better that I not know so that we go where the science leads us and focus not only



**+**  
**THE BIG BAD:** A slide of Allison’s cancer cells. The cells’ outer membranes are orange, the color of a special stain adhering to HER2 receptors, indicating that her breast cancer was HER2-positive.

on curing my cancer but all patients’ cancer.”

Allison’s personal experience with breast cancer also helped to orient her research—but in the opposite direction. As she underwent radiation, six months of chemotherapy and a double mastectomy, Allison continued to research HER2-positive breast cancer and to perform her duties as director of breast pathology for the University of Washington Medical Center. She also took Herceptin for a year. Not all women with HER2-positive cancers respond to the infusion, but Allison did.

She remembers well, though, what it’s like to wait anxiously to see if a treatment will work.

**“I LOOK AT THIS ALL THE TIME UNDER THE MICROSCOPE, BUT THIS ISN’T MY STORY.”**

That’s why today she is focused on fine-tuning the way that pathologists classify the 5 to 10 percent of women with cancers that have borderline or unusual HER2 test results. It’s also why she keeps transparencies of her own breast cancer hanging in her office today. Every slide she creates, she says, represents a patient whose treatment is shaped by the decisions she makes. **N**

# Newsweek

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## A CRYPTO RESPONSE

# How to stop a deadly disease so neglected it's not on the WHO's 'neglected' list

FOR MANY Americans, Norman, Oklahoma, is famous as the home of a college football powerhouse, the Oklahoma Sooners. But to public health officials around the world, Norman may be better known for the work of a family-run company founded in a barn on the fringes of the city.

Immuno Mycologics, aka Immy, started out in the late '70s with a modest goal: make simpler tools to diagnose fungal infections. It's now one of the fastest-growing private companies in the nation, built entirely on unique diagnostics. One of its most important developments in recent years is a rapid test, the Cryptococcal Antigen Lateral Flow Assay, or CrAg LFA, which global health experts believe could be key to stopping one of the planet's biggest killers: cryptococcal meningitis.

Crypto, a fungal infection of the brain and spinal cord, is a threat primarily to people living with HIV/AIDS. A so-called opportunistic infection, it preys on those who lack access to the antiretroviral therapy that can keep HIV in check. Infection occurs when a person inhales the airborne spores of *Cryptococcus*, a fungus in soil around the world. A healthy person's immune system can easily fight off the infection, but in someone whose immune system has been weakened, such as by HIV, the fungus often spreads from the lungs to other parts of the body—usually the meninges, the protective envelope surrounding the brain. There, it can impair the brain's ability to reabsorb cerebrospinal fluid, producing

a buildup within the skull. The result: a headache so excruciating “you cannot eat, you cannot talk, you do not know where you are,” says Rose Sabina, a survivor from Uganda. “The head wants to burst. The pain is too much.” The only means of relief is a lumbar puncture, or spinal tap, a procedure often performed without anesthesia in poor countries where staff and supplies are stretched thin. And even where such care is available, most patients die.

In fact, according to the U.S. Centers for Disease Control and Prevention (CDC), cryptococcal meningitis kills nearly as many people in sub-Saharan Africa every year as tuberculosis—and more in a month, every month, than the worst Ebola outbreak on record. Globally, the disease claims up to 300,000 lives every year. Yet despite its outside impact on human health, the disease has all but vanished from public view. There is no day named for its awareness, no celebrity ambassador to champion its demise. The World Health Organization (WHO) team tasked with addressing cryptococcal meningitis is a team of one.

That's also the number of times cryptococcal meningitis is mentioned in the 500-plus pages of the latest UNAIDS report. Not since 2009 has it been mentioned in *The New York Times*. “It just gets lumped with HIV, so no one sees it and no one really cares,” says David Boulware, a physician-scientist at the University of Minnesota. “Crypto is so neglected that it's not even considered a



BY  
**PATRICK ADAMS**  
 @jpatadams



**FROM ALL FRONTS:** Most of the patients in the isolation ward of a hospital in Arua, Uganda, shown here, are suffering from opportunistic infections—like crypto—related to HIV/AIDS.



‘neglected disease,’” he adds, referring to the WHO classification for illnesses affecting only the poorest populations and thus of no commercial interest to pharmaceutical companies, resulting in a dearth of research and development.

“Neglected diseases” have in recent years benefited significantly from product development partnerships, or PDPs. With support from the Bill and Melinda Gates Foundation (the largest funder of PDPs), groups like PATH and the Drugs for Neglected Diseases Initiative have catalyzed new research and development for everything from African sleeping sickness to lymphatic filariasis. When the TB Alliance was launched in 2000, no TB drugs were in clinical development. In the past 15 years, the organization has gotten tremendous financial support from the Gates Foundation to develop a faster cure for TB, and today it boasts “the largest portfolio of potential new TB drugs in history.”

For cryptococcal meningitis, however, little has changed. The drugs recommended for first-line treatment, flucytosine and amphotericin B, are more than 60 years old, highly toxic and prohibitively expensive. Patients taking

amphotericin B must be monitored for renal failure, one of several potentially life-threatening side effects—so bad the drug is often referred to as “amphoterrible.” Despite that, amphotericin B is considered a luxury in many countries and is seldom available. Flucytosine has not been approved for importation, distribution and marketing by a single regulatory agency on the African continent. Even fluconazole, an effective, if suboptimal, antifungal that went off patent more than a decade ago, is often in short supply there.

CrAg LFA could be the solution. It’s a simple premise: Catch the disease before you even need the awful, pricey and hard-to-find drugs. The methods of diagnosis currently available to health care workers in the field rely on having access to major laboratory infrastructure, including a continuous supply of electricity and skilled technicians. The CrAg LFA, in contrast, is simple and easy to use, requires no cold chain or refrigeration, and it works with just a finger-prick of blood. Faster and more accurate than previous methods, and significantly less expensive, the test also allows for earlier diagnosis; the crypto antigen, which is highly predictive of the development of

**+**  
**HOPE ON TRIAL:**  
Mulago Hospital in Kampala, Uganda, where doctors and nurses are testing the efficacy of CrAg LFA, a screening tool that can detect the presence of crypto even before symptoms arise.



the disease, can be detected weeks to months in advance of the onset of symptoms, offering an opportunity, rare in public health, to treat patients before they become ill.

Shortly after CrAg LFA was developed, the WHO issued new guidelines recommending its use. But even with the WHO's stamp of approval, uptake has been sluggish. When I arrived in Uganda in mid-September, the first shipment of 15,000 tests—a donation from Immy—was held up in customs, due to “bureaucratic inertia” and because it is a “nonpriority,” says Boulware. The shipment is still there.

The greatest hurdle to preventing deaths caused by cryptococcal meningitis may be the notion that nothing more need be done. “Crypto is perceived as something that will simply go away,” says Tom Harrison, a professor of medicine at St. George's Hospital in London and one of the world's foremost experts on cryptococcal meningitis. “Donors think it's a done deal.” Of the some \$2.5 billion in HIV grants Gates has given away, not a single dollar has gone toward cryptococcal meningitis. Moreover, according to experts, the foundation—which wields considerable influence over the global health agenda—has repeatedly rejected funding proposals for projects that would address the disease, including development of CrAg LFA and its rollout across sub-Saharan Africa. “They say, ‘It's not in our strategy. We don't see this as a problem,’” says Jeff Klausner, an HIV specialist at the University of California, Los Angeles, “and they just don't get it.” A representative for the Gates Foundation declined to comment on the topic.

Klausner, a former chief of HIV/TB care and treatment for the CDC-South Africa, recalls a 2011 meeting in Johannesburg with CDC Director Tom Frieden, in which the two reviewed the country data on crypto and the role CrAg screening could play in controlling it: “He got it very quickly. He said this is going to be ‘one of our winnable battles.’” Weeks later, the CDC posted on its website a call to action: “By 2015, equip one half of all HIV clinics in Africa and Asia to perform *Cryptococcus* testing and treatment.” Doing so, the agency predicted, “could save 50,000 to 100,000 lives each year.”

Governments are gradually getting on board. So far, 16 countries in sub-Saharan Africa have included CrAg screening in their national guidelines, many with support from the Clinton Health Access Initiative, which recently began working with country ministries of health to



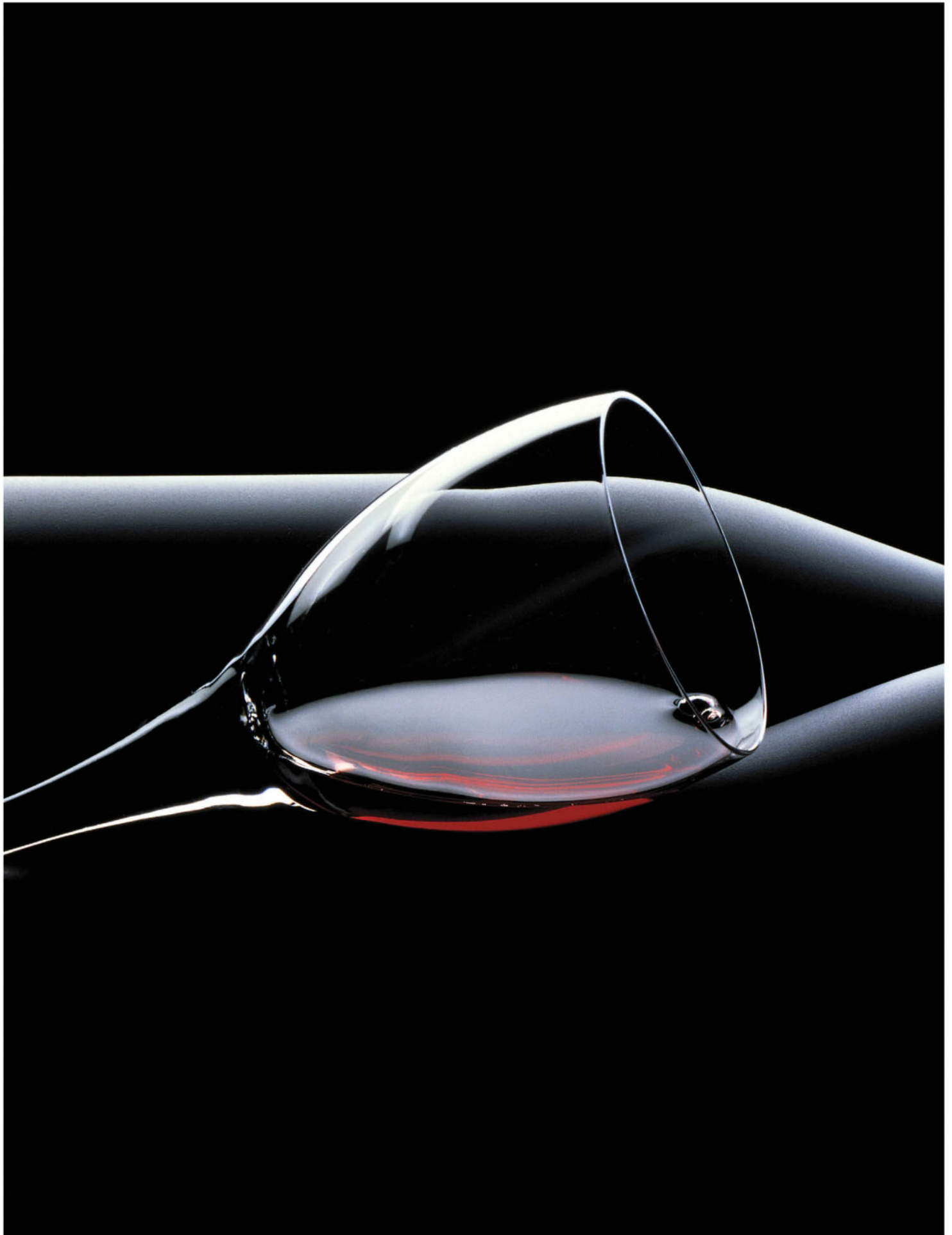
develop screening strategies, strengthen supply chains and raise awareness of cryptococcal meningitis among health care workers. Alisat Sadiq had never heard of the disease when she came to work several years ago as a counselor at Mulago Hospital in Kampala, the capital of Uganda. But upon seeing the patients—heads draped with wet cloths, eyes squinting in the light—she thought back to the many people in her home village who had gotten headaches and soon after gone “crazy.” Family members had tied them to their beds for fear they might wander away, and within weeks, she recalls, the wailing finally stopped. “No one knew it was crypto,” she says. And anyway, there were no drugs then, “so everyone died.”

Today, Mulago is ground zero for research on CrAg LFA. Thanks to CrAg screening, those diagnosed before they've developed symptoms

## THE WORLD HEALTH ORGANIZATION TEAM TASKED WITH ADDRESSING CRYPTOCOCCAL MENINGITIS IS A TEAM OF ONE.

are getting the treatment they need as part of the research trial. But the big question, says Boulware, is what will happen when the study ends and the burden of funding falls to the government. “It's one thing for countries to include screening in the guidelines,” he says. “But there are a lot of recommended guidelines that never actually get implemented, especially when there's no donor money to support it.”

Which might be why, as 2016 begins, few countries have made significant headway, and only one, Rwanda, has rolled out screening at the national level. “I think it's shameful,” says Klausner. “People know crypto as a cause of death in AIDS patients. But people expect AIDS patients to die.” And so, prostrate to fatalism, they have given up the fight against this deadly disease. **N**







DOWNTIME

BOOKS

WINE

JOURNALISM

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STYLE

## WHERE THERE'S A SWILL, THERE'S A WAY

# Can't afford a \$4,000 bottle of 1982 Château Lafite-Rothschild Pauillac? Then steal a case, or make your own. You aren't likely to get caught

**HEAVY POUR:** There are many varieties of wine crime, but Mark C. Anderson's was especially brazen: He stole and re-sold collectors' expensive bottles, betting that wealthy owners wouldn't notice a lost bottle.

MARE ISLAND would make a fine set for a zombie flick. A former military base in Vallejo, California, that predates the Civil War, it once housed the components for Little Boy, the atomic bomb dropped on Hiroshima. When the Navy decamped in 1996, it left behind a ghost city of empty concrete barracks. Some of the buildings have been reclaimed by businesses that need square footage more than foot traffic—an earthquake protection firm, a brewery—and though there are people working on the island, you never really see them, which only heightens the pervading unease.

In 2002, a new tenant arrived in Building 627, the sand-colored warehouse that once housed the nuclear payload. Wines Central hoped to take advantage of Vallejo's location, near the

base of grape-rich Napa Valley but also close to San Francisco and Sacramento.

As Frances Dinkelspiel writes in her new book, *Tangled Vines*, one of the patrons of Wines Central was a corpulent bon vivant named Mark C. Anderson, who stored some 5,600 cases of wine in Building 627. Anderson was the proprietor of Sausalito Cellars, in the tony seaside village at the foot of the Golden Gate Bridge, where he lived in a houseboat. He wrote for a local paper and generally gave the sense that he was one of the many "estate babies" living the easy life in Marin County. But after a while, Anderson could no longer pay the Sausalito commercial rents; Mare Island would be cheaper. So in 2004 he moved the cases to Wines Central, without telling the wealthy collectors, restaurateurs and

ALUN CROCKFORD/GALLERY STOCK

BY  
**ALEXANDER  
NAZARYAN**

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vintners who were his clients.

There was another thing his clients didn't know: Anderson had been stealing from them for years. There are several varieties of wine crime, but the one in which Anderson engaged was about as brazen as yanking a glass of pinot out of an eager drinker's hand: He simply pulled expensive bottles from their collections and sold them, betting that people with vast stores of expensive wine would not notice if just a bit of it disappeared.

In late 2003, a Sausalito Cellars client decided he wanted his wine back. Samuel Maslak had been paying Anderson \$600 a month to store 756 cases of wine from a restaurant of his that had failed. Hoping to auction his wines at Christie's, he sent a mover to retrieve the wine from Sausalito Cellars. The mover informed Maslak there were only 144 cases of wine, leading to questions about what happened to the other 612, questions that Anderson answered with implau-

sible excuses. Another collector, Ron Lussier, had entrusted Anderson with valuable bottles from Stags' Leap, the legendary Napa vineyard whose cabernet triumphed in the 1976 "Judgment of Paris," the oenological version of a Rocky Balboa victory. Inside one of the cases he'd entrusted to Anderson were bottles of Trader Joe's "Two-Buck Chuck." The missing bottles of Stags' Leap had been valued at \$650 each.

Law enforcement was closing in too. A district attorney in Marin County filed embezzlement charges in February 2004, then added more charges in December. The following April, both local police and the Internal Revenue Service raided Anderson's home. Inside they found books like *The Modern Identity Changer* and *Hide Your Assets and Disappear: A Step-by-Step Guide to Vanishing Without a Trace*. In June 2005, Wines Central told Anderson to take his wine elsewhere.

On October 12, Anderson arrived at Wines

**BOTTLE SHOCK:** Wine labels used as evidence in the trial of wine dealer Rudy Kurniawan, who was found guilty of masterminding a lucrative scheme to sell fake vintage wine in New York and London.



Central, presumably to clear out his storage space. With him he carried a blowtorch and rags soaked in gasoline. The fire burned for eight hours, destroying about \$250 million worth of wine. The fire was intended to mask the evidence of his theft, but it was also a cruel strike against all those who had the sophistication, and the wealth, Anderson had long envied. “It’s remarkable,” Dinkelspiel writes, “how little it takes to ruin 4.5 million bottles of wine.”

Named after Napa’s first white settler, Yountville has a downtown that looks like an ersatz Mediterranean village. Tourists amble from tasting room to tasting room, reminding themselves to swirl and smell. Or they head out on the Silverado Trail, whose undulations goad you into an irresistible comparison with Tuscany.

Until the 1960s, Napa was “an agricultural backwater given over to prune and walnut trees, pastures and some vines,” James Conaway writes in his history of the region. Santa Clara was a sleepy collection of orchards too, but then an ambitious new breed of craftsmen settled the South Bay towns of Palo Alto and Menlo Park. Instead of bottling zinfandels, these renegades etched semiconductors. Today, some of the vast wealth of Silicon Valley, as Santa Clara is now universally known, flows north, over the Golden Gate Bridge, into the vineyards of Napa and Sonoma. *Worth* magazine recently noted that “many of the best wines” in California “were built with handsome profits from Silicon Valley ventures.”

But if only Silicon Valley code cowboys were producing and drinking Russian River pinot noirs, the California wine industry wouldn’t be the \$24.6 billion behemoth it is today. In 2014 the United States became the top wine consumer in the world, and the wine market has become phenomenally democratic—you can pay thousands of dollars for a coveted Screaming Eagle cabernet, but you can buy a 2013 Kendall-Jackson Vintner’s Reserve Chardonnay, rated 91 by Wine Enthusiast, for \$15.99. All you need to be a wine snob today is a 20-dollar bill.

With so much money, curiosity and envy tied up in the wine business, it’s easy to see why the greedy and the unscrupulous have taken to wine. Some, like Anderson, resorted to theft, figuring that with 31.4 billion bottles of wine swapping hands each year, nobody will miss a few prized cases that fell off the truck. Far more lucrative than theft is fraud, the passing off of cheap wine as expensive stuff. It’s art forgery in a bottle, except that a fake painting is probably easier to sniff out than a fake Bordeaux chardonnay. An unopened bottle of wine is difficult to authenticate, since corks and labels can easily be faked, especially



for older wines. You can try to verify by taste, but opening a bottle immediately abrogates any value outside your memory of the sensation. Even then, you don’t really know what you’re drinking. “Nobody in the world, nobody, is able to authenticate via taste,” wine fraud expert Maureen Downey recently told NPR.

In 2007, a German wine dealer named Hardy Rodenstock became infamous after it was convincingly alleged, in a lawsuit filed by William I. Koch, that he had passed off bottles of wine he’d mixed as having belonged to Thomas Jefferson. Koch, a prominent wine collector and a member of the much-reviled political clan, came to realize that many of the wines in his cellar were proba-

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**“NOBODY IN THE WORLD,  
 NOBODY, IS ABLE TO  
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 [WINE] VIA TASTE.”**

bly fake. He told *The New Yorker* in 2007, “When I get finished going through all the wine in my collection, I’m going after all the people who sold it to me. The retailers, they know they’re doing it. They’re complicit.”

Koch also sued Rudy Kurniawan, a Los Angeles dealer who perpetrated what *Vanity Fair* called “the largest known ‘wine’ fraud in history.” One merchant called him a “gentleman thief,” and Kurniawan struck a plangent note as prison loomed: “I thought these people were my friends, and I wanted to be accepted in their world.”

To fake a great wine takes a great palate, as well as great ingenuity. What Anderson did is more crude. Last Christmas, someone stole 76 bottles of wine worth a total of \$300,000 from the French Laundry, the Yountville restaurant sometimes called the best in America. The wine was later found in North Carolina. According to *Bloomberg Businessweek*, the thieves had likely been after Domaine de la Romanée-Conti, a



prized pinot noir from Burgundy. In fact, DRC is so revered that a father-son duo tried to extort the vineyard's proprietor, threatening to destroy his vines.

Once in a while, real blood flows. Earlier this year, a struggling winemaker in Napa, Robert Dahl, shot and killed an investor named Emad Tawfilis, then killed himself. Tawfilis was involved in the Silicon Valley tech sector, while Dahl was a shady businessman from Minnesota. Both men were entranced, one Napa winemaker told the paper, by the "lifestyle" of owning a vineyard, "drinking wine every night and having great dinners." The culture of wine can be as intoxicating as wine itself. The hangover can be just as brutal.

#### 'ALMOST ANIMALY'

ONE EVENING a few months ago, I met Dinkelspiel at La Botella Republic, a wine bar in downtown Berkeley that almost exclusively serves wines from California. A single glass there can run to \$25, which could in other establishments fetch a respectable bottle. We ordered a red from The Scholium Project, a petite syrah almost the color of oxblood. Dinkelspiel pronounced it "almost animaly" and noted that the winemaker was "an L.A. guy," an imprecation on which she did not need to expound. She ordered a glass of something else, but I continued to drink the dark red juice, surly and spicy on my tongue. It was a wine that did not want to be liked, which made me like it all the more.

In 2008, Dinkelspiel published *Towers of Gold*, about her great-great grandfather Isaias W. Hellman, a prominent Los Angeles banker. In the course of her research for that book, she discovered that Hellman had once owned the Rancho Cucamonga winery in the San Bernardino Valley, east of Los Angeles. About 175 bottles of Hellman's wine ended up in the possession of Miranda Heller, a cousin of Dinkelspiel's. Heller decided to store the bottles at Wines Central.

Wine is never just what's in the bottle, and when Anderson set that fire, he was setting alight not only countless hours of human toil but entire histories of immigration, assimilation, struggle and success. "The loss of the wine felt like the severing of my past," Dinkelspiel writes

in *Tangled Vines*. She corresponded with Anderson as he awaited sentencing, after pleading guilty to charges of arson and embezzlement. He never expressed remorse for the fire, continuing to deny his involvement. Now serving a 27-year sentence in prison, he seems not to grasp the extent of the ruin he caused. As the winemaker Ted Hall said at his sentencing, "We can't simply call up a factory and ask them to make us another vintage of 2001 cabernet sauvignon. It is gone forever. The fruit of our hands and of our hearts is irretrievably gone, like a piece of fine art trashed by a barbarian sacking a city."

Dinkelspiel worries that Napa has become "a victim of its own success." The more people want rare, expensive wine, the more likely they are to come under the spell of those willing to supply it dishonestly. And should authenticity come into question, you can probably offload the bottle on the Asian market. "It's usually luck when people are caught," Dinkelspiel says.

The next day, I went to the flagship store of Kermit Lynch, the famous Berkeley-based wine merchant. "It is no exaggeration to say that a significant segment of the fine wine industry today is stamped in Mr. Lynch's image," *New York Times* wine critic Eric Asimov wrote in 2007. Lynch is famous for selling only French

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and Italian wines, in what may seem like an affront to California. But by promoting European wines, he tutored New World winemakers in the craft, showing them the best of what the Old World had to offer.

The people who wandered his store obviously knew wine better than I did, moving through the racks with a quiet, clinical intensity. I picked one of the cheapest wines I could find, a \$16 carignane from France's Languedoc-Roussillon region. I'd never heard of the vineyard, and I wouldn't know if someone had spiked my carignane with grenache or, frankly, just swapped labels with a bottle of Two-Buck Chuck. But this was not a prestige purchase: I have no cellar, no auctioneer to impress. The stakes were low. And, as I discovered a little later, the wine was good. ■

## TWO QUESTIONS WITH GAY TALESE

The world's most iconic journalist discusses not really caring about journalism



**GAY TALESE**, who has written about opera divas, bricklayers, hookers and ballplayers, can probably hold a riveting conversation with anyone. The veteran writer says he learned the fine art of talking from his mother, a dressmaker, who spoke softly and never interrupted. For over 50 years, Talese has been patiently instilling trust in his subjects, gently nudging them into revealing their most guarded secrets (which, if *Thy Neighbor's Wife*, his book about post-1950s sexuality and adultery, is any indication, are often scandalous). Given this lifetime of expertly steering conversations, getting Talese to reveal secrets in a short interview is impossible. He deftly deflects questions he doesn't want to answer with stories that seem related but leave his interrogator entertained yet thwarted.

It's a skill that's kept Talese's mystique intact five decades after "Frank Sinatra Has a Cold," his revered profile-at-a-distance, ran in *Esquire*. "Cold" was republished in December as

a Taschen coffee-table book for Sinatra's centennial, boasting Phil Stern photographs and scans of Talese's outlines of the story, famously scrawled on full-size shirt boards. It should give curious fans their fill of the writer—at least until April, when his latest book, about voyeurism, hits shelves.

**How do you earn people's trust? Especially when they're telling you something as controversial and personal as, say, their accounts of adultery in your book *Thy Neighbor's Wife*?**

Well, I had their trust at the time after cultivating them. Then they'd say, "Oh, I know I gave you permission to go ahead with this, but I

can't go ahead with it. I can't do it...."

You'd never know now, because it's 2015, but I'll tell you, in the 1980s, what I was doing was considered utterly disgusting in researching that book. [I was] going to massage parlors, living as a nudist for six months in a swinger's paradise, and it was crazy. I was living what I was writing about, and I was there, and it was understood that I was going to write about what I saw and how I felt.

But I insisted on using people's names, so I managed to get them back on record. A lot of that comes from knowing how to talk to people—how to make yourself believable—and then they trust you.... How do you write about them? Not doing a hatchet job. Very

soft, careful language can suggest something.

**You're a journalist who has expressed many misgivings about journalism. You often wax on the short story form instead. Why not just write fiction?**

I'm much more interested in fiction as sources of comfort and sources of education and sources of inspiration. Because it's all about writing in fiction; nonfiction is driven by subject. On the other hand, I don't write fiction. I don't aspire to be another novelist. There are so many good short story writers and novelists, who needs another one? So I want to steal the art of the fiction writer and the storytelling technique and bring it to what I do. ■

BY

PAULA MEJIA

@tenaciouspm



## THE QUARTER FINAL

# Once an essential part of city life, newspaper boxes may soon go the way of the pay phone

**LAST MARCH**, 1,500 publications got word from a metal manufacturer in Texas that the company would be leaving the newspaper box industry it had helped start. The manufacturer, Kaspar Cos., claims to have invented the first coin-operated sidewalk newspaper box, in the 1950s. But with the rapidly changing print journalism market, and having already cut its number of employees from 800 to 60, Kaspar decided to abandon the boxes. So newspapers placed their final orders, and in August the assembly line at the 170,000-square-foot plant in Shiner, Texas, groaned out its last-ever box. The machinery was then sold for parts.

Newspaper boxes (sometimes called newspaper vending machines, newspaper racks, news racks or honor boxes) are ubiquitous along city streets so it's easy to overlook them. Made of metal or plastic, some coin-operated or chained to street signs, the boxes have lost value at a time when news consumers carry around iPhones instead of coins and publications tend to get thinner and thinner until they disappear completely. Soon these boxes could go the way of the pay phone.

Their demise isn't really surprising, given how many print media shake-ups have occurred in just the past year. In October, *Philadelphia City Paper*, which was available for free in orange metal boxes, went out of print. Around the same time, *The Village Voice*, which in New York City comes in red plastic boxes, announced it had a

new owner. In December, *Seattle Weekly*, in red metal boxes, reportedly laid off nearly a third of its employees because of costs.

In Philadelphia, where city code requires licenses, there were 527 boxes in 2015, the city says. A decade ago, the number was 1,401. In New York, where the Department of Transportation regulates the boxes, 10,000 were registered in 2015, the city says, down from more than 12,500 three years earlier. Seattle estimates it has 2,500 boxes but doesn't require licenses, which has made it easy for boxes to fall into disrepair. Responding to complaints by locals about the boxes, the city launched a Web portal in September so people can submit requests for maintenance or relocation directly to the publishers.

The current state of newspaper boxes is far from what industry insiders say was a boom in the 1980s and early 1990s. *USA Today*, founded in 1982, is widely credited with driving that surge; its white boxes, shaped like television sets, were pervasive. Kaspar Cos. claims to have manufactured most of those boxes. "We were triple-shifting our factory, working around the clock. That was a wild couple of years," says CEO David Kaspar, whose grandfather invented the first coin-operated box and whose great-grandfather founded the company in 1898.

A competing manufacturer, K-Jack Engineering Co., also takes credit for the *USA Today* boxes. "We couldn't get them out fast enough,"



BY  
**MAX KUTNER**  
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**LITTLE BOXES:** Many cities have watched newspaper boxes disappear: 10,000 were registered in New York in 2015, down from 12,500 three years ago. In Philadelphia, the number has gone from 1,401 to 527 in 10 years.

says Sales Manager Steve Ruitenschild. “It was very lucrative.” (Kaspar Cos. once successfully sued K-Jack for patent infringement.)

“After *USA Today* launched, all the other papers started jumping on,” says Kathy Kahng, owner of CityRax, which manages multi-publication newspaper box units for business improvement districts.

Newspaper box sales began dropping off in the late '90s, and publishers slashed locations. According to the Newspaper Association of America, in 1996 newspaper boxes accounted for 46 percent of single-sale daily newspapers. In 2014, that percentage was down to 20.

In 2009, CNN reported that *The New York Times* had 5,678 boxes, down from 13,300 a decade earlier. Now, a spokeswoman for the *Times* tells *Newsweek*, the number is 39. “It’s not been a little decline,” says Ruitenschild. “It’s fallen off the cliff.”

Publishers and box manufacturers blame different factors: the Internet and declining print readership; an increase in sales at indoor locations; the economic recession; the rising price of single-sale newspapers. “Unless you’re traveling to the laundromat, nobody walks around with eight quarters,” Kahng says.

Kaspar Cos. now focuses on metal pickup truck accessories and buying and selling precious metals. K-Jack has scaled back too. “We’re

lean and mean,” Ruitenschild says. “We really cut it to the bone.”

Some people don’t feel nostalgic for the boxes. Community groups and city officials around the country have launched campaigns or been involved in lawsuits against publishers who use them; two cases even went to the Supreme Court. Quality-of-life watchdogs in New York City have protested them, arguing that lack of upkeep makes them eyesores. In the early 2000s, Mayor Michael Bloomberg urged the city to pass new restrictions on their placement and maintenance. Publishers found to be in violation reportedly could get ticketed.

The expenses involved in owning boxes—which can run between \$200 and \$400 for dispensers of free papers and up to \$600 for a coin-operated one—can add up, leading some publications to go “cold turkey” and pull all of their boxes, says John Murray, vice president of audience development at the Newspaper Association of America. Jay Sterin, general manager of *Philadelphia Weekly*, which acquired the *Philadelphia City Paper*’s intellectual property, says most of *City Paper*’s boxes were picked up and put in storage. Other *City Paper* boxes will be repurposed with the *Weekly*’s logo.

Boxes aren’t always so lucky. Tiffany Shackelford, executive director of the Association of Alternative Newsmedia, says that when a pub-

“IT’S NOT BEEN A LITTLE DECLINE. IT’S FALLEN OFF THE CLIFF.”

lication closes, some boxes get sold as assets or scrap. Others can be “left to languish until the city does something about them.”

Because alternative newsweeklies, like *The Village Voice*, are typically free and don’t rely on the boxes to make money, those publications tend to have more fun with them. In some cities, alt weeklies have even invited artists to decorate the boxes. “It certainly is one of the things that is great for morale,” Shackelford says of seeing the boxes with your paper’s logo on street corners. After cities tried to restrict boxes, the Supreme Court ruled in 1988 and 1993 that they were necessary symbols of a free press. But on a more local level, Shackelford says, “these are definitely sort of a nod and wink to those in the know that this is kind of the cool paper in town.” **N**



THE CURATED LIFE

## ROW HOUSE

The owner of Huntsman, the lauded London tailor, has strengthened the storied Savile Row institution

**WHEN I STARTED** writing about men's clothes in the 1980s, Savile Row struck me as a museum. It looked like a street of elegant undertakers—and I mean that in a good way. There was a mausoleum-like solemnity about this street of Britain's most storied bespoke tailors for men, as if it had just exited a period of mourning for a much-respected monarch.

To cross the threshold into these august establishments required confidence. The firms were run by patriarchal figures: There was Norman Hallsey at Anderson & Sheppard, and Angus

Cundey at Henry Poole (his son Simon now runs the firm), while Huntsman, arguably the most forbidding (and inarguably the most expensive) of all, was the domain of Colin Hammick.

Hammick was an enigmatic figure. He started as an apprentice at Huntsman at age 14 in 1942 and dedicated his life to the pursuit of elegance. He took elocution lessons so that he spoke as well as the noblemen whose patterns he cut. He changed his suit up to four times a day. And in 1971 he topped the *Tailor & Cutter* best-dressed list, ahead of one of his clients, actor Rex Harrison.

BY  
**NICHOLAS  
FOULKES**

KIRSTY MCLAREN/ALAMY



**THE LORD OF TAILORS:** Colin Hammick, the Savile Row tailor for Huntsman who brought a distinct visual signature to the brand, poses among fabrics at the store in London.

+

And it is thanks to Hammick that of all the great names in tailoring, Huntsman is the house with the strongest visual signature. A classic Huntsman coat is instantly recognizable: a single button front, high armholes, suppressed waist and sharp shoulders. It is also slightly longer than average, with a flare to the coat that hints at the house's sporting origins.

Founded in 1849, initially as a breeches maker and sporting tailor, Huntsman soon became a favorite among Europe's royal houses. First came the Prince of Wales (later Edward VII), then his brother Prince Alfred Duke of Edinburgh, and in 1887 Queen Victoria herself became a customer, buying riding breeches for herself and other items for family members. As the century turned, more Royal Warrants appeared on Huntsman's walls, including those of Edward VII (1901) and George V (1910). After Huntsman moved from Bond Street to No. 11 Savile Row in 1919, it acquired the warrants of the two most stylish examples of 20th-century royalty: the Prince of Wales (1921) and King Alfonso XIII of Spain (1926).

Then came Hollywood royalty. Gregory Peck was Huntsman's most devoted movie star fan, placing some 160 orders. Peck had a soft spot for Huntsman's signature checks. Clark Gable also became a customer after having Huntsman make his costume for the big-game hunter movie *Mogambo*.

My first visit to Huntsman was not a success. I demanded to see the loud checks for which the company is famous and followed one of the salesmen into the basement to examine them, which is a bit like pouring yourself a large glass of communion wine rather than letting the priest get around to serving you. I am pleased to say that I was not barred, which would have been a pity as over the years I have become fond of the place, although not quite as fond as financier Pierre Lagrange, who, to borrow from the immortal Victor Kiam, liked Huntsman so much he bought the company in 2013.

Lagrange freely admits that before Huntsman the closest he had been to entering the world of bespoke had been to commission a pair of Holland & Holland 20-bore shotguns and a Harley-Davidson, but he has installed a new management team that has wasted no time in revamping the place. The front of the shop remains the gentleman's club it has always been—a pair of stag heads, left behind by a customer in the early '20s, still hang above the slate fireplace. But the new cutting tables under the



massive skylight must now be among the best in London's West End, and at the back is a sort of den, with tweed-covered walls and a tweed-covered billiard table, which can be transformed into a dining table.

Close readers of movie credits will know that Lagrange was an executive producer of *Kingsman: The Secret Service*, starring Colin Firth. When he bought the firm, Lagrange was thrilled

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## THE FRONT OF THE SHOP REMAINS THE GENTLEMAN'S CLUB IT HAS ALWAYS BEEN—STAG HEADS STILL HANG ABOVE THE SLATE FIREPLACE.

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to find that his friend Matthew Vaughn, with whom he has also produced the two *Kick-Ass* films, had written a script inspired by Vaughn's tailor—Huntsman.

Order is being brought to the Huntsman archive, which includes cards, old fabrics, customer ledgers, photographs and old advertisements. The firm has also been buying back key items of clothing to keep in its archives, such as shooting suits made for Eric Clapton. And classic cloths from the company's past, including some of the more vigorously checked tweeds favored by Peck, have been rewoven in the Highlands of Scotland.

In 2015, Lagrange was also chairman of Savile Row Bespoke, the association that promotes and protects Savile Row tailoring, and during that time he asked me to curate an exhibition at the British Embassy in Washington that explored Savile Row's relationship with America—an unexpected twist on my first impressions of the Row as a museum. But that first impression really has become outdated. As Lagrange likes to put it, "What strikes me when I look at today's Savile Row is how current it is. The museum has become an art gallery." **N**

# REWIND

50  
YEARS



JANUARY 17, 1966

IN "HENRI MATISSE," ABOUT A  
MATISSE RETROSPECTIVE EXHIBIT  
AT UCLA'S DICKSON ART CENTER

“The show is a  
marvel, a heroic  
symphony of  
colors and  
harmonies, an  
ode to the joy

of life. It shows beyond question  
why Picasso, who was both his  
only rival and a loyal friend,  
could exclaim that in Matisse  
'color breathes' as if 'he has  
swallowed the sun.'”